

**Findings and Recommendations pursuant to the Endangered Species Act  
and Finding of No Significant Impact pursuant to the National Environmental Policy Act  
for the Issuance of a Section 10(a)(1)(B) Incidental Take Permit (TE215574-5)  
associated with Implementation of the Habitat Conservation Plan for the San Bruno Mountain  
Habitat Conservation Plan in San Mateo County, California**

**I. DESCRIPTION OF THE PROPOSAL**

The U.S. Fish and Wildlife Service (Service) proposes to issue an amended incidental take permit (ITP or Permit) to the Cities of Brisbane, Daly City, South San Francisco, and the County of San Mateo (Applicants or Permittees) in San Mateo County, California, under the authority of section 10(a)(1)(B) and section 10(a)(2) of the Endangered Species Act of 1973, as amended (ESA). The existing 10(a)(1)(B) permit issued March 4, 1983 by the Service authorized the incidental take of three Federally listed animal species, the endangered San Bruno elfin butterfly (*Incisalia mossii bayensis*), endangered mission blue butterfly (*Icaricia icarioides missionensis*), and endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) for a period of 30 years. The City of Brisbane (City) seeks to amend the incidental take permit to include two additional Federally listed animal species, the endangered callippe silverspot butterfly (*Speyeria callippe callippe*) and threatened Bay checkerspot butterfly (*Euphydryas editha bayensis*) in connection with development activities on the Northeast Ridge and management and monitoring of Conserved Habitat (areas of San Bruno Mountain (Mountain) currently held or will be held in fee title by the San Mateo County or the State of California) carried out under the existing San Bruno Mountain Habitat Conservation Plan (HCP). The San Bruno elfin butterfly, mission blue butterfly, callippe silverspot butterfly, Bay checkerspot butterfly, and San Francisco garter snake are collectively referred to as "Covered Species."

Upon the issuance of the amended ITP, the City would receive incidental take authorization for the Covered Species as a result of certain activities identified in the amended HCP submitted by the City as part of the permit application. The Bay checkerspot butterfly does not currently inhabit the Mountain. The checkerspot was historically known from the Mountain until the mid 1980s. Should the Bay checkerspot butterfly become re-established on the Mountain during the term of the Permit, the ITP would authorize take of the Bay checkerspot butterfly in association with vegetation management activities for the remainder of the permit term, subject to renewal. The ITP would continue to authorize incidental take of San Bruno elfin, mission blue butterfly, and San Francisco garter snake.

The existing HCP and subsequent amendments, including the proposed Amendment, describe the project in detail, together with the conservation measures that would be implemented to avoid, minimize, and mitigate take of the Covered Species that is expected to occur as a result of the project. The existing Implementing Agreement (IA) concerns implementation of the HCP and has been signed by the Service, San Mateo County, City of Brisbane, City of Daly City, City of South San Francisco, California Department of Fish and Game, and the California Department of Parks and Recreation. The proposed ITP and existing IA will remain in effect until March 4, 2013 (30 years from the date of the original ITP), subject to renewal. Changes to the IA are not anticipated.

This document includes the Service's Findings and Recommendations pursuant to the ESA, which provide an administrative record of how the proposed Amendment under review satisfies each of the permit issuance criteria under section 10(a)(2)(B) of the ESA and in the Service's implementing regulations for the ESA (50 CFR 17.22(b)(2) and 17.32(b)(2)). These Findings also include our responses to public comments received, and a recommendation for permit issuance or denial. Parts I – VI of this document are relevant to these Findings and Recommendations.

This document also includes a summary of the Environmental Assessment (EA) conducted pursuant to the regulations of the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1506.6), and briefly presents why the EA (and other documents made available during the public comment period) supports our Finding of No Significant Impact (FONSI) and the reasons why the proposed action will not have a significant effect on the human environment for which an environmental impact statement therefore will not be prepared. Parts I, II, and VII of this document are relevant to this FONSI.

Documents reviewed in the preparation of this combined FONSI and Findings and Recommendations include: (1) Final Rule listing the callippe silverspot butterfly as an endangered species that was published in the **Federal Register** on December 5, 1997; (2) Application for an Amendment to the section 10(a)(1)(B) permit for San Bruno Mountain (PRT 2-9818) dated February 5, 2008, from the City of Brisbane and associated materials received by the Service on February 7, 2008; (3) San Bruno Mountain Habitat Management Plan 2007, dated September 2007 (prepared by the San Mateo County Parks Department); (4) San Bruno Mountain Area Habitat Conservation Plan (volumes 1 and 2), dated May 1982 (prepared by the San Bruno Mountain Habitat Conservation Plan Steering Committee); (5) Biological Study and Analysis of Conserved Habitat for Amendments to the Habitat Conservation Plan for San Bruno Mountain and Incidental Take Permit PRT 2-9818, dated October 2007 (prepared for the County of San Mateo and City of Brisbane); (6) Analysis of Butterfly Survey Data and Methodology from San Bruno Mountain Habitat Conservation Plan (1982-2000) 1. Status and Trends, dated 2004 (prepared by Travis Longcore, Christine S. Lam, and John P. Wilson); (7) San Bruno Mountain Habitat Conservation Plan Amendment Environmental Assessment, dated October 2007 (prepared for the Service by Jones and Stokes); (8) San Bruno Mountain Habitat Conservation Plan Activities Report for Endangered Species Permit PRT-2-9818 (1984 – 2009); (9) Special Report on San Bruno Mountain Habitat Conservation Plan Management Budget, dated August 9, 2006 (prepared for San Mateo County by Thomas Reid Associates); (10) 57 public comment letters submitted on the EA; (11) Intra-Service Biological Opinion on Issuance of a Section 10(a)(1)(B) Incidental Take Permit for the proposed Amendment (not used in determining a FONSI); and (12) electronic mail, telephone discussions, and meetings between the Service, City of Brisbane, Brookfield Northeast Ridge II LLC (Brookfield), Thomas Reid Associates (TRA), and others, between 1998 and 2009. These documents are hereby incorporated by reference, as described in 40 CFR 1502.21.

## **Alternatives Considered**

The Service considered three alternatives in the EA: (1) the Proposed Action Alternative (reconfiguration of the Northeast Ridge Plan); (2) the 1989 Northeast Ridge Plan Alternative;

and (3) the No Action Alternative. A number of other alternatives that would meet the City's need to provide incidental take authorization in order to continue to implement activities covered under the existing HCP were also considered, but eliminated from further consideration for reasons described in Chapter 2 of the EA. These alternatives included an alternative development site (to development activities on the Northeast Ridge) and a substantially reduced development alternative.

#### Proposed Action Alternative

The Proposed Action consists of Service issuance of an amendment to an existing section 10 ITP. As described in Chapter 1 of the EA, the HCP amendment would include a revised operating program for the Northeast Ridge; provision of supplementary funding; and a proposal for the addition of the callippe silverspot and Bay checkerspot butterflies to the ITP.

The specific project (reconfiguration of the Northeast Ridge) and activities (Management and Monitoring of Conserved Habitat) that trigger the need for issuance of an amendment to the existing ITP to add the callippe silverspot and Bay checkerspot butterflies to the list of covered species are listed below. These activities may physically disturb, harm, or harass the listed butterflies and are analyzed in *Chapter 4, Environmental Consequences*, of the EA. Management and Monitoring of Conserved Habitat is a component of the existing HCP, as such, it is not part of the proposed Amendment. However, the EA analyzed impacts resulting from Management and Monitoring on the callippe silverspot and Bay checkerspot butterflies. The Service's Biological Opinion (BO) also analyzed impacts resulting Management and Monitoring the callippe silverspot and Bay checkerspot butterflies, as well as the other Covered Species.

#### **Reconfiguration of the Northeast Ridge**

The 2007 Northeast Ridge development has been substantially modified from the 1989/1990 approvals (1989 VTM). The Amendment proposes to authorize the 2007 Vesting tentative map (VTM), which would include 71 single-family homes in Unit II-Neighborhood II (UII-NII) (Landmark). Under the 2007 VTM, the 228.3 acre parcel on the Northeast Ridge would contain 144.66 acres of Conserved Habitat for the Covered Species and 83.66 acres of development (EA Table 2-1 provides an overview of the 2007 VTM acreages). In 2006, the City of Brisbane and Service agreed that Brookfield could continue with development of 11 single-family residential units on 5.67 acres north of Unit I that had been disturbed by remedial grading required for an earlier phase of development. Because the area had been previously impacted and no longer contained potentially suitable habitat for the callippe silverspot or Bay checkerspot butterflies, take of listed butterflies was not likely and no incidental take authorization was required, and these homes and associated infrastructure are currently under construction. In 2007, the City and Service further determined that roadway construction, infrastructure installation, and slope stabilization measures needed for public health, safety, and welfare reasons required grading of an additional 1.07 acre area north of Unit I (referred to as "infrastructure grading"). The City and Service agreed that six additional housing units

could be constructed on this previously undisturbed area outside the HCP fence location at that time. The total, 17 housing units, considered 'transferred' to Unit I comprise a 6.74 acre area. The EA evaluated potential impacts to the callippe silverspot and its habitat on the 1.07 acre Infrastructure Grading site, although it was not part of the proposed Amendment.

The 2007 VTM would permanently disturb 16.67 acres, with an additional 2.97 acres temporarily disturbed and subsequently revegetated, for a total of 19.64 acres. The UII-NI area would be left undeveloped and would be dedicated as Conserved Habitat. The Service, the City, and Brookfield conferred on a plan to redesign UII-NII to avoid high quality callippe silverspot habitat along the western boundary of the Northeast Ridge and to transfer 28 units from UII-NI to UII-NII. After construction, UII-NII would include 71 single-family homes. As a result, UII-NII would increase in size by 4.97 acres over the 1989 VTM, but the additional impacts would occur in an existing blue gum eucalyptus (*Eucalyptus globulus*) grove and areas previously designated for temporary disturbance and restoration. The 2007 VTM would result in a net increase of 8.93 acres of Conserved Habitat over the 1989 VTM. Permanent development footprint impacts are reduced from 25.60 acres under the 1989 VTM to 16.67 acres in the 2007 VTM. Temporary impacts are similarly reduced from 14.40 acres to 2.97 acres. Brookfield also proposes to provide supplemental funding for the HCP, as described below.

The 2007 VTM covers the final phase of development of Administrative Parcel 1-07-02, including the following activities.

- Grading of 19.64 acres of undisturbed area for UII-NII, including 16.67 acres that would be permanently disturbed and 2.97 acres that would be disturbed temporarily and then revegetated pursuant to HCP criteria.
- Dedication of 78.27 acres of Conserved Habitat, including the 2.97 acres that would be temporarily disturbed and then restored.
- Construction, use, and maintenance of 71 single-family detached home lots.
- Landscaping and maintenance of common areas, including revegetation and management of temporarily disturbed areas and installation and maintenance of fuel management zones.
- Installation, operation, and maintenance of required public or association owned infrastructure, sidewalks, community fencing or walls, streetlights, traffic signs and signals, drainage facilities (including concrete V-ditches), and utilities (including, but not limited to, water, sewer, electricity, gas, telephone, and cable).
- Construction and use of the public emergency vehicle access (EVA).
- Removal of portions of the existing eucalyptus grove (6.82 acres).
- Monitoring required for the installation, construction, or operation of any of the features described above.

The fuel modification zone, which would be owned and maintained by the HCP Operator, would be vegetated, to the extent practicable, with native plants that do not present an invasive threat to the adjacent grasslands within the future Conserved Habitat. Portions (approximately 0.41 acres) of the fuel modification zone extend into otherwise

undisturbed areas. The Northeast Ridge homeowners associations may conduct additional maintenance of the fuel modification zone through removal of wooded material within 30 feet of adjacent lots. Concrete V-ditches would be installed on the graded slopes within the fuel modification zone to convey stormwater runoff. These facilities would also be maintained by the Plan Operator but are not expected to require frequent maintenance.

The Northeast Ridge homeowner's association would fund the required maintenance, per an agreement with the City.

The primary access to UII-NII would be from the south via existing streets in the adjacent UI-NII. The EVA, approximately 20 feet wide and 180 feet long, would connect the northern corner of the community ("C" Court) to Guadalupe Canyon Parkway. Access to this EVA, which would be concrete, would be limited by locked gates to emergency vehicles only.

Portions of the perimeter of UII-NII may have a 4-foot catchment wall where lots and roadways are adjacent to the HCP open space. These areas may include a portion of "C" Court in the northern tip of the development and the easterly edge of "A" Street in the southern end of the development. The final designs of the catchment walls are subject to the City Engineer's approval of the grading and improvement plans, at the time of, or just prior to, final map approvals.

The Northeast Ridge currently contains a 7.85-acre eucalyptus grove. Existing approvals related to the 1989 VTM require removal and thinning of these trees, which has been delayed due to the listing of the callippe silverspot butterfly. Construction of the proposed 2007 VTM would permanently remove 6.82 acres of eucalyptus trees; 1.02 acres would remain in Conserved Habitat and be thinned (minimum of 45-feet between trees) by Brookfield. This is an increase of 2.1 acres of tree removal as compared to the 1989 (from 4.7 acres under the 1989 VTM to 6.8 acres under the 2007 VTM).

### **Conserved Habitat**

Reductions in the size of the Northeast Ridge development area increase the size of Conserved Habitat over the 1989 VTM. The 2007 VTM would increase undisturbed Conserved Habitat by 20.36 acres and would result in a net increase in Conserved Habitat of 8.93 acres, because UII-NI would not be constructed (EA Table 2-3 provides a comparison of Conserved Habitat acreages in Unit II between the 1989 and 2007 VTMs). Under the 2007 VTM, the 228.3 acre parcel would contain 144.7 acres of Conserved Habitat, which is an increase from the 135.73 acres of Conserved Habitat under the 1989 VTM. This is a net increase of 8.97 acres of Conserved Habitat. The reconfigured Conserved Habitat area contains high quality butterfly habitat (including hilltops, topographic diversity, and high density of callippe silverspot butterfly larval hosts plants), is contiguous with other Conserved Habitat areas off-site (areas north of Guadalupe Canyon Parkway), and is contiguous with the majority of grassland habitat on the Northeast Ridge.

The 2007 VTM would allow disturbances to 19.64 acres in UII-NII, and avoids 21.20 acres of high quality callippe silverspot butterfly habitat within the area that would have been UII-NI under the 1989 VTM. The proposed development area in the 2007 VTM is within areas that generally have lower value habitat (i.e., lower density of larval host plants, fewer hilltops, and a grove of eucalyptus trees) than would have been disturbed under the 1989 VTM. Additionally, the extent of impacts in UII-NII would be minimized by the use of catchment walls, which limit the grading required to stabilize slopes. The increased development acreage in UII-NII would occur in the eucalyptus grove and areas previously proposed as revegetated areas. Due to the height and density of the 7.85-acre eucalyptus grove, it currently acts as a partial barrier to butterfly movement, and its removal would be beneficial to the species; although, the benefits of tree removal may be offset by the residential development, that may serve as a partial barrier to movement and increasing human activity directly adjacent to butterfly habitat (see Section 4.3 of the EA). However, the Service's Biological Opinion (Service 2009) for the proposed Amendment concluded that "[t]he residential development likely will not be a barrier to the callippe silverspot and the mission blue butterflies because of their ability to fly through the cut and thinned eucalyptus grove, open areas, spaces between the homes, and around the north side of the development" (see *Effects of the Proposed Action* in the 2009 Biological Opinion).

### **Proposed Mitigation**

Development of the 2007 VTM would be conducted with the avoidance, minimization, and mitigation measures required in the existing HCP. The following additional measures will also be undertaken:

- The existing HCP (1982, as amended) requires an annual charge of \$20 per dwelling unit (\$88.56 in 2007 dollars). Pursuant to recent subdivision improvement agreements with the City of Brisbane, the 71 housing units in the 2007 VTM and the 17 units under construction in Unit I would pay an annual assessment of \$800.00 in 2005 dollars (\$850 in 2007 dollars). This proposed annual assessment (\$74,800 in 2007 dollars) represents a substantial increase to the amount currently required under the HCP. The amount of the dwelling unit charge would be adjusted annually in accordance with increases in the preceding calendar year's Consumer Price Index for Urban Wage Earners and Clerical Workers within the San Francisco-Oakland-San Jose area, as reported by the U.S. Department of Labor's Bureau of Labor Statistics. All funds collected would become part of the HCP's Trust Fund used by the Plan Operator for vegetation management activities. Contribution to the Trust Fund is required by the HCP for all development within the HCP boundary.
- Brookfield would fund a \$4 million endowment (Endowment) to be managed by the HCP Trustees for the ongoing habitat management and monitoring activities of the HCP. The new Endowment would be established pursuant to a negotiated agreement between the City of Brisbane and Brookfield. The Endowment would be funded incrementally upon the granting of final map approval for the lots in UII-NII.

Funding of the Endowment was divided over 88 dwelling units, including the 71 housing units in the 2007 VTM and the 17 units under construction in Unit I. It is expected that this Endowment would generate over \$200,000 per year in interest (5 percent annual rate of return), available to the Trustees for the management and monitoring of the Conserved Habitat. The management would be done in accordance with the Habitat Management Plan, as described in Section II.B of the EA.

- The remainder of the Northeast Ridge, which includes undisturbed open space areas and the areas temporarily disturbed but restored/revegetated to grassland habitat, would be dedicated as Conserved Habitat. Brookfield would fund the management of the restored areas for a period that extends 5 years after the completion of grading and revegetation in these areas. All undisturbed areas would be dedicated to and maintained by the HCP Operator.
- Brookfield would remove a portion of the on-site eucalyptus grove, which acts as a barrier to movement of the mission blue and callippe silverspot butterflies. Approximately 6.82 acres of the eucalyptus grove would be removed at the time of housing construction for UII-NII or a timeframe mutually agreeable to the City and the developer.

The existing HCP currently provides a funding mechanism used to address the highest priority threats to endangered butterfly habitat. The 2007 Habitat Management Plan (HMP) proposes to enhance existing management methods, some of which have only been used on a limited basis due to limited funding, such as, grazing, burning, and mowing. These techniques would be used on a more comprehensive scale in order to change the conditions that favor invasive species and brush on the Mountain. Utilizing these additional tools on a broad scale, require substantial additional funding (TRA 2007). TRA (2007) reports that management and monitoring of Priority 1, 2, and 3 areas within the HCP area to maintain existing grasslands and reclaim former grassland areas that have been lost to coastal scrub succession would require a significant increase in funding. Without the supplemental funding, only Priority 1 areas containing core habitat for the callippe silverspot and mission blue butterflies would be managed. The existing Trust Fund and new Endowment would be used by the Plan Operator for enhanced vegetation management and monitoring activities on all Priority 1, 2, and 3 areas.

### **Management and Monitoring of Conserved Habitat**

There are approximately 2,750 acres of Conserved Habitat on San Bruno Mountain. Much of these lands provide habitat for the Mountain's listed butterflies, as well as other rare and endangered species that inhabit it. Habitat management activities are authorized under the existing HCP, and since the 1990s, habitat management has been guided by management plans, which had been updated every five years. The addition of the callippe silverspot and Bay checkerspot butterflies to the ITP would authorize the potential take of both species during vegetation management and monitoring in Conserved Habitat, and the potential take of callippe silverspot butterflies during vegetation management, replanting, and restoration following the final phase of the

Northeast Ridge development (described above). Take of the callippe silverspot and Bay checkerspot butterflies, either direct take of individuals and/or indirect take of individuals resulting from habitat modification would be authorized for habitat management activities that occur under the 2007 HMP and/or future iterations of the HMP. The 2007 HMP is included as Appendix B to the EA.

The 2007 HMP focuses on continuing the current habitat management methods that have proven to be successful, as well as utilizing methods covered under the existing HCP that have not been widely used (due to limited funding), to reverse the conditions that favor invasive species and brush on the Mountain. The 2007 HMP defines Priority 1, 2, and 3 areas for habitat management in order to focus protection and restoration efforts: Priority 1 areas include all grassland areas including all habitats for the four listed butterflies; Priority 2 areas include all other native plant communities; and Priority 3 areas include dense invasive species infestations. The 2007 HMP implements a Stewardship Grazing Program, including application and testing of grazing projects. It also expands monitoring to provide relative population and distribution data for the callippe silverspot, mission blue, and San Bruno elfin butterflies. Habitat management would be conducted in all management units every year, with a focus on fulfilling the goals and objectives of the HCP. The work program would be determined on an annual basis through the collaboration between the Plan Operator, County of San Mateo, and the San Bruno Mountain Technical Advisory Committee, with guidance from the Service.

### **Vegetation Management**

The following is a list of the vegetation management techniques listed in the 2007 HMP: (1) livestock grazing; (2) prescribed burning; (3) pile burning; (4) mowing; (5) herbicide application; (6) mechanical clearing; and (7) replanting/restoration. A detailed description of each is provided in the EA, 2007 HMP, and the Biological Opinion.

### **Monitoring**

The existing HCP requires monitoring to ensure compliance with the terms of the HCP and to evaluate effectiveness of ongoing conservation efforts. The HMP's monitoring program is intended to implement the monitoring requirements of the HCP based on contemporary scientific practices. Undertaken by the Plan Operator, monitoring includes recording regular observations of biological processes and conservation activities on the Mountain. The purpose of monitoring is to assure that the Plan conditions are being met, and to keep an ongoing record of the progress of Plan implementation and allows the Plan Operator to conduct periodic re-evaluation of the vegetation management activities and modify them as appropriate. The degree of monitoring corresponds to the intensity of construction and/or management techniques underway. Monitoring would be structured to provide sufficient information for ongoing review. Monitoring of initial experimentation would be more intensive than monitoring done after techniques are established.



Endangered butterfly monitoring conducted over the 25-year span of the HCP has focused on assessing the distribution and/or relative abundance of the endangered callippe silverspot, mission blue, and San Bruno elfin butterflies on the Mountain. All three butterflies have low growing host plants that can easily be overgrown by weeds and/or coastal scrub vegetation, and all three species overlap in their distribution on the Mountain. Two monitoring systems have been used to monitor the endangered species on the Mountain: set transects and wandering transects. The 2007 HMP directs continuation of the current set transect monitoring system, with minor modifications made to the mission blue transects.

Rare plant distribution data has been collected in GIS format within the last 5 years for all listed plant species. This includes the manzanita colonies (all species), Diablo rock rose (*Helianthella castanea*), San Francisco lessingia (*Lessingia germanorum*), San Francisco spineflower (*Chorizanthe cuspidata* var. *cuspidata*), San Francisco campion (*Silene verecunda* ssp. *verecunda*), and dune tansy (*Tanacetum camphoratum*). The 2007 HMP directs GPS mapping of all the special status rare plant species on a cycle of once every two years on the Mountain to track changes in distribution and monitor health of these colonies.

Monitoring for additional species (i.e., bumblebees and ants) may be conducted and academic research on the Mountain is encouraged to provide this additional information. HCP monitoring funds are focused on the endangered species and their habitats, as required under the HCP permit. While monitoring is focused on the butterflies of concern and rare plants, study and management of the Mountain's overall ecosystem will benefit the listed species.

Vegetation management effectiveness monitoring is vital to recognizing changes to the ecosystem and to gauge the results of habitat management work. Effectiveness monitoring over the 25-year span of the HCP has been focused on tracking invasive species distribution and coastal scrub succession. Vegetation monitoring has been done using primarily two methods: daily tracking of work conducted and overall distribution of vegetation types and invasive species. To track large scale changes in vegetation, the 2007 HMP directs mapping using aerial ortho-photo interpretation and field checking, and that the Mountain should be remapped using this technique every 5 years. For finer scale monitoring, fixed transects and quadrats will be used.

#### 1989 Northeast Ridge Alternative

As described above, the City approved a 1989 VTM that provided for 579 residential units, and the Service and DFG approved an Equivalent Exchange Amendment for this revised design in 1990 (EA Figure 2-2). Under the 1989 VTM, the 228.3-acre parcel on the Northeast Ridge would contain 135.7 acres of Conserved Habitat for the Covered Species and 92.59 acres of development (EA Table 2-4 provides an overview of the 1989 VTM acreages).

If the Service amended the existing ITP to add callippe silverspot and Bay checkerspot butterflies to the existing HCP, the construction of UII-NI under the 1989 VTM would result in greater take associated with direct effects to listed butterflies as well as greater take associated with indirect effects from habitat loss than the 2007 VTM (Proposed Action Alternative). The 1989 VTM includes disturbance of 18.8 acres for UII-NI and 21.2 acres for UII-NII (EA Table 2-1). The 1989 VTM would permanently disturb 25.60 acres, with temporary disturbances to 14.40 acres that would be revegetated, for a total of 40.00 acres of disturbance. It would also remove 29.31 acres of grassland habitat as opposed to 12.01 acres under the 2007 VTM. The construction footprint of UII-NI is within an area considered a favored hilltop for the butterfly.

Under the 1989 VTM, a total of 151 new dwelling units would be constructed in two neighborhoods in Unit II (not including the 17 units transferred to Unit I in 2006/2007). The 1989 VTM would result in 80 more housing units than the 2007 VTM, which proposes 71 units in Unit II. These units would be assessed the annual dwelling unit charge authorized under the existing HCP and no additional endowment would be established. The existing HCP requires an annual charge of \$20 per dwelling unit (\$88.56 in 2007 dollars) for management and maintenance of Conserved Habitat. At \$88.56 per dwelling unit, the 151 housing units would generate a total of \$13,372.56 annually (in 2007 dollars) in assessments for implementing conservation activities on the Mountain, which is less than the annual assessment (\$74,800 in 2007 dollars) proposed under the 2007 VTM and associated subdivision agreements. Funding generated under the 1989 VTM, would allow the continuation of existing management activities, but not the enhanced activities in the 2007 HMP. Under the existing management plan, an average of 5.3 acres of grassland convert to coastal scrub annually; it is anticipated that the gradual loss of grassland habitat and decreases in butterfly distribution would continue under the existing management plan. The existing level of funding only allows the highest quality habitat to be maintained and allows encroachment of invasive weeds and native brush into the annual grassland. However, unlike the No Action Alternative, discussed below, management activities could be carried out within all Conserved Habitat areas, as this alternative would authorize incidental take of the callippe silverspot and Bay checkerspot butterflies.

#### No Action Alternative

Under the No Action alternative, the existing Northeast Ridge development configuration and Conserved Habitat described and depicted in the existing HCP (1982, as amended) would remain in effect, which includes the 1989 VTM (EA Figure 2-2). However, since incidental take of the callippe silverspot and Bay checkerspot butterflies would not be authorized, activities that result in take could not legally occur in any areas that support the callippe silverspot butterfly. As a result of minimum City standards (for street widths and lengths, street grades, looped water systems, lot widths and depths, driveway and garage depths, and emergency vehicle access), it is anticipated that most, development in the designated development areas may result in take of the callippe silverspot butterfly. Therefore, under this alternative, Brookfield would likely not build any additional homes within the 1989 VTM footprint. The development of even a portion of the 1989 VTM

would likely be difficult and not cost effective. The No Action Alternative would result in little or no new residential construction on the Northeast Ridge at this time. However, the landowner may pursue a revised development plan, submittal of a revised HCP amendment and ITP application, and/or legal means to uphold existing development rights in the future.

The No Action Alternative may result in significant adverse impacts to vegetation and wildlife, because access to the Northeast Ridge parcel would be limited to the landowner, the Plan Operator would not conduct habitat management activities for the listed butterflies within these areas, which include the majority of the Northeast Ridge. The No Action Alternative would also result in no additional endowment funding and no expanded annual budget for vegetation management and monitoring in Conserved Habitat. The annual dwelling unit charge would be limited to \$20 per dwelling unit (\$88.56 in 2007 dollars), as required under the existing HCP. With no additional funding, continuation of the current management program would be expected to result in the continued gradual loss of grassland habitat and decreases in butterfly distribution. The existing level of funding only allows limited vegetation management that is generally limited to area with the highest habitat value; this limited management allows encroachment of invasive weeds and native brush into grassland habitats. Additionally, under the No Action Alternative, the ITP would not be amended to add callippe silverspot or Bay checkerspot butterflies; this would eliminate any management activity in areas that support these species that could result in take of the callippe silverspot or Bay checkerspot butterflies including, but not limited to grazing, mowing, and burning. The inability of the Plan Operator to conduct vegetation management activities within habitats that support callippe silverspot or Bay checkerspot butterflies would lead to the build up of dense layer of thatch, as well as brush invasion. Increase in grass thatch and coastal scrub would displace the butterflies' larval host plants; this in turn would be expected to reduce the distribution and abundance of all listed butterflies within the HCP boundary.

### **Impact Topic Areas**

Based on both internal and external scoping of the proposed Federal action of permit issuance, the following impact areas were analyzed in the EA:

- Visual Resources
- Climate/Regional Air Quality/Sensitive Receptors
- Seismicity/Geologic Hazards/Soils
- Hydrology/Flooding/Water quality
- Hazardous Materials
- Biological Resources
- Land Use
- Cultural Resources
- Noise
- Public Health Hazards
- Public Services/Utilities

## **II. PUBLIC COMMENT**

The Service published a Notice of Availability (Notice) of an EA and receipt of the City's application for an ITP, and announced the availability of the proposed Amendment in the *Federal Register* on April 15, 2008 (73 FR 20324). Publication of the Notice initiated a 60-day public comment period which ended on June 16, 2008. Copies of the proposed Amendment, 2007 HMP, 2007 Biological Study, and EA were mailed to all interested persons upon request. Fifty-six comment letters were received during the 60-day comment period; one was received after the comment period closed. Eleven comment letters were identical with four more letters being nearly identical. Our decision documents will be made available to all interested parties upon request. Following final action on the permit application, our agency will publish a notice of decision in the *Federal Register*.

## **III. ESA DECISION: INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS**

### **Analysis of Biological Effects to ESA Listed, Proposed, and Candidates Species**

The proposed Amendment will result in incidental take of all callippe silverspot and mission blue butterflies in 19.64 acres of grassland habitat associated with development on the Northeast Ridge. Incidental take of mission blue butterflies would be less than the amount currently authorized under the existing HCP and ITP. In addition, adverse affects to all Covered Species associated with management and monitoring of approximately 2,800 acres will be subject to incidental take. The existing section 10(a)(1)(B) incidental take permit covers the take of the mission blue butterfly, San Bruno elfin butterfly, and San Francisco garter snake, but does not include callippe silverspot or Bay checkerspot butterflies. The Bay checkerspot butterfly was known from the Mountain until the mid 1980s; however, the checkerspot does not currently inhabit the Mountain.

Both the revised Northeast Ridge development plan and habitat management and monitoring were analyzed in the Service's biological opinion (Service file #81420-2008-F-0946) (Service 2009), which concluded these and other activities will not jeopardize the callippe silverspot butterfly or the other listed species on the Mountain or result in adverse modification of designated critical habitat. Below is a summary of the Service's effects analysis:

#### **A. Reconfiguration of Conserved Habitat, Proposed Development, and Related Development Activities within the Northeast Ridge:**

The callippe silverspot butterfly and the mission blue butterfly may be harassed, injured, or killed as a result of construction activities and young and eggs may be injured or killed as a result of being crushed or buried by earth moving activities, including temporary disturbances and permanent loss of habitat. Increased levels of dust caused by construction or other earth moving activities may clog butterfly spiracles (breathing

tubes) and asphyxiate the early stages of the two species, and thus cause their death by asphyxiation. However, the inclusion of dust control measures during construction activities should minimize any potential effects to these butterflies.

The Amendment's change in the configuration of Conserved Habitat will reduce impacts to the callippe silverspot and the mission blue butterflies more than the 1989 VTM because; (1) it will have a smaller development footprint as a result of the elimination of Unit-II Neighborhood-I (Hillcrest) (UII-NI) than the 1989 VTM under the existing section 10(a)(1)(B) permit; and (2) the Amendment will conserve more hilltopping habitat than would have been conserved under the existing section 10(a)(1)(B) permit. Reconfiguration of the Northeast Ridge development and Conserved Habitat is not likely to result in take of the San Bruno elfin butterfly, Bay checkerspot butterfly, San Francisco garter snake, or have adverse effects on the San Francisco lessingia.

The Amendment will designate new Conserved Habitat on the Northeast Ridge that is larger in size and higher in biological value than the habitat that would have been lost as a result of the 1989 VTM and is of higher value than the habitat lost as a result of the 2007 VTM. Approximately 0.84 acre of existing Conserved Habitat will be lost through development under the proposed Amendment; this area consists primarily of a eucalyptus grove, which does not provide habitat for the callippe silverspot or mission blue butterflies. The reconfiguration will result in a net increase in Conserved Habitat by 8.93 acres.

The 2007 VTM results in less fragmentation than the 1989 VTM due to clustering of the development in Unit-II Neighborhood-II (Landmark) (UII-NII). The deletion of UII-NI will result in a larger, contiguous grassland habitat block that includes the two primary hilltop areas on the Northeast Ridge: Callippe Hill and an unnamed hill to the east. While Callippe Hill has been conserved as habitat through existing HCP, the 1989 VTM would have severely impacted the unnamed hill to the east. The 2007 VTM increases the amount of development near Guadalupe Canyon Parkway, but it is not expected that this will present a significant barrier to the callippe silverspot butterfly. Habitat would be protected on all four sides of the Carter Street/Guadalupe Canyon Parkway intersection, including a narrow hilltop that will be partially disturbed by temporary activities. At the current time, movement of this endangered species in this area is partially restricted by a 9.09 acre eucalyptus grove that would be removed under the 2007 VTM. An emergency vehicle access that is part of the 2007 VTM will connect the development to Guadalupe Canyon Parkway. The emergency vehicle access will have a smaller footprint and will be less trafficked than the public roadway planned in the 1989 VTM.

Impacts to callippe silverspot and mission blue butterflies would also result from the loss of larval host plants (Johnny jump-up (*viola pedunculata*) and lupine (*Lupinus albifrons*, *L. formosus*, and *L. variicolor*) respectively) and nectar plants. The development of the 2007 VTM would require grading of 19.64 acres of undisturbed habitat, including 2.97 acres that will be restored pursuant to the restoration guidelines in the Habitat Management Plan. An additional 1.07 acres of previously undisturbed habitat have been impacted by the 2007 Infrastructure Grading. The 16.67 acres that would be permanently

disturbed, and the 1.07 acres disturbed by the 2007 Infrastructure Grading include approximately 12.01 acres of grassland habitat.

Hilltopping habitat is important for the callippe silverspot butterfly because the adult males patrol for females on summits and ridgetops, while females fly uphill to mate and downhill to oviposit within areas containing Johnny jump-up. The grassland also supports lupines and nectar plants utilized by the mission blue butterfly. The 2007 VTM significantly reduces impacts to hilltop and downslope ovipositing habitat for both of these endangered species by eliminating the development of UII-NI. The site of UII-NI has been described as "...prime habitat for both butterfly species, particularly the [callippe]" (Murphy 1989). Murphy (1989) stated that UII-NI "...has greater negative impacts that development in other Northeast Ridge areas."

Temporary disturbance associated with the 2007 VTM would disturb an area that is approximately 880 feet long and 100 to 200 feet wide, located on the south side of a ridgeline, approximately 100 feet south of Guadalupe Canyon Parkway. The ridgeline has consistently been utilized by the callippe silverspot butterfly (TRA 2003-2005), as do hilltops and ridgeline areas to the north and east. The impact from grading on the south side of the ridgeline is anticipated to be temporary because the topographic high point of the ridgeline will remain and continue to provide hilltopping habitat for the callippe silverspot butterfly. After grading, the disturbed area will be restored to grassland habitat.

Impacts to callippe silverspot and mission blue butterflies may occur as a result of barriers to movement. Development under the 2007 VTM would be located in an area dominated by grassland and blue gum eucalyptus. Current and historical data document callippe silverspot and mission blue butterflies using the grassland habitat on the slope below the eucalyptus trees. The eucalyptus grove is approximately 25 to 350 feet wide and extends north to south through Unit II of the Northeast Ridge development. Callippe silverspot butterflies have been observed moving through the grove in the narrow areas; however, in the widest areas, the trees and understory appear to be at least a partial barrier to their movement. The eucalyptus trees will be cut and thinned, but 1.02 acres would remain and there will be a minimum of 45 feet between the trees. The barrier to movement by the callippe silverspot and mission blue butterflies would be significantly reduced by the cutting and thinning.

The proposed development under the 2007 VTM includes the construction of 71 homes. These homes will be two stories high, and the permanent footprint of the development ranges from approximately 50 to 1300 feet across. Temporary disturbance includes an additional 100 to 200 feet to the width of the project footprint, although these areas will not contain structures that could serve as a barrier to butterfly movement and will be restored. The residential development likely will not be a barrier to the callippe silverspot butterfly and the mission blue butterfly because of their ability to fly through the cut and thinned eucalyptus grove, open areas, spaces between the homes, and around the north side of the development.

The existing four-lane Guadalupe Canyon Parkway located directly to the north of the Northeast Ridge is not a permanent barrier to mission blue and callippe silverspot butterflies; however, the number of animals that are able to move across this road is dependent on various factors, including the amount of traffic and the speeds of the vehicles. Several studies have found that roads do not appear to substantially restrict the movement of butterflies (Mungira and Thomas 1992; Ries and Debinski 2001; Ries *et al.* 2001; Saarinen *et al.* 2005; Valtonen and Saarinen 2005). However, in these studies, butterflies with different dispersal tendencies also differed in their behavioral repose to road edges. The more vagile, strong flying species were less sensitive to road barriers (Mungira and Thomas 1992; Ries and Debinski 2001) than species that were either habitat specialist (Ries and Debinski 2001) or those that were not efficient dispersers (Mungira and Thomas 1992; Valtonen and Saarinen 2005). Callippe silverspot butterflies are strong fliers, as are members of the genus *Speyeria* as a whole (Howe 1975).

The callippe silverspot butterfly has been observed flying across Guadalupe Canyon Parkway during annual monitoring over the past 25 years. The mission blue butterfly was observed on two occasions crossing Guadalupe Canyon Parkway, and once crossing a 40-foot wide road at Twin Peaks (San Bruno Mountain Habitat Conservation Plan Steering Committee 1982). There is Conserved Habitat on both sides of Guadalupe Canyon Parkway - the Saddle and Rio Verde parcels on the north, and the Northeast Ridge Water Tank Parcel and the Northeast Ridge on the south. After development of the 2007 VTM, the Conserved Habitat along the south side of Guadalupe Canyon Parkway will vary in width from approximately 87 feet to 250 feet. Habitat on the north side of Guadalupe Canyon Parkway will not be affected by the Northeast Ridge construction. The implementation of the 2007 VTM will not result in a complete barrier to east-west movement of these two listed butterflies along the north side of proposed residential units 39-50, which are directly south of Guadalupe Canyon Parkway, or prevent movement back and forth over Guadalupe Canyon Parkway.

Callippe silverspot and mission blue butterflies may be impacted by vehicular traffic along Guadalupe Canyon Parkway. Although roadways may not be a significant barrier to butterflies, the vehicles that travel on them can result in significant levels of mortality (Mungira and Thomas 1992; McKenna *et al.* 2001; Ries *et al.* 2001); however, when it has been measured, usually <10 percent of butterflies from study populations experience direct vehicle mortality (Mungira and Thomas 1992; Ries *et al.* 2001; Valtonen and Saarinen 2005); although McKenna *et al.* (2001) suggested a higher proportion of mortality was possible. However, the majority of traffic on Guadalupe Canyon Parkway is during the early morning and early evening "rush hours", periods when the two listed butterflies have not yet begun flying, or are less likely to be active. McKenna *et al.* (2001) found that butterfly mortality declined at the highest traffic levels (19,700 vehicles and 26,000 vehicles per 24 hours). Among other reasons, they speculated that at speeds of 55 miles per hour and greater, butterflies were caught in a "wind current" going over the roof of the car, with the result that the animals were "catapulted" over the vehicle instead of colliding with it.

## B. Management and Monitoring of Conserved Habitat

A significant amount of the Mountain has been protected as open space; however, lack of funding and listing of the callippe silverspot butterfly has resulted in limited vegetation management on the Mountain. Species diversity and vegetative cover of invasive, exotic plants and the amount of coastal scrub habitat have increased significantly since the issuance of the original ITP. Grasslands in Conserved Habitat decreased by approximately 122 acres between 1982 – 2004 due to coastal scrub succession. As a result of limited funding, weed control activities have focused on larger plants, such as gorse, fennel, and eucalyptus, but more attention is required to control and manage weedy grasses, such as quaking grass (*Briza maxima*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and small forbs, including yellow oxalis (*Oxalis stricta*), sheep sorrel (*Rumex acetosella*), and English plantain (*Plantago lanceolata*).

Although the Habitat Management Plan is part of the existing HCP, incidental take of callippe silverspot butterflies resulting from management actions were not previously included on the ITP. Implementation of the 2007 Habitat Management Plan will result in some adverse effects to the listed butterflies, and San Francisco garter snakes, but the overall long term effects will be beneficial. The Amendment will provide funding to protect and restore butterfly habitat on a more thorough scale than is possible under the current management budget and support ongoing grazing and brush removal experiments and invasive species control. Clearing coastal scrub from former grassland areas and controlling invasive weeds will allow for the natural recruitment of Johnny jump up and lupines into reclaimed grassland areas. In the vicinity of the Northeast Ridge, the additional funds will be used to manage Conserved Habitat on both sides of Guadalupe Canyon Parkway and the area around the water tank, including the removal of coastal scrub and invasive species that are currently encroaching on grasslands. Specific parcels that would directly benefit include those that have had a large decline in occupancy by the callippe silverspot butterfly, mission blue butterfly, and their larvae host and adult nectar plants over the span of the HCP and include the Rio Verde parcels, Northeast Ridge Water Tank Parcel, and the McKesson parcel. Coastal scrub succession, and to a lesser extent invasive weed infestation, has replaced the grassland habitat for these two endangered species in these areas. The revised operating plan for the Northeast Ridge also requires the developer, Brookfield, to fund the management of the 78.27 acres of proposed Conserved Habitat within the Northeast Ridge prior to dedication of this parcel to the State and County Park. The Trustees for the San Bruno Mountain Habitat Conservation Plan will be able to collect the annual habitat conservation plan fees and build up the endowment prior to taking over management responsibilities.

Implementation of the management actions may result in the death, injury, harassment, or harm of the mission blue butterfly, San Bruno elfin butterfly, callippe silverspot butterfly, Bay checkerspot butterfly, and the San Francisco garter snake, and adverse effects to the San Francisco lessingia due to clearing of vegetation and other activities associated with hand clearing, flaming, herbicides, livestock grazing, prescribed burning, pile burning, mowing, mechanical clearing, replanting/restoration, suppression, and mechanical treatment. However, adverse affects to these the San Bruno elfin, mission blue butterfly,



and San Francisco garter snake were analyzed in previous Findings and biological opinions; these species are included in this Findings and the biological opinion to update the affects analysis and ensure the proposed Amendment will not jeopardize the continued existence of any of the Covered Species. Activities associated with vegetation management are necessary to eliminate or control invasive plants that compete with the plants utilized by the listed butterflies, degrade or eliminate habitat for the San Francisco garter snake, or degrade the habitat or outcompete the San Francisco lessingia, and thus result in significant long-term benefits to the survival and recovery of these species in the wild. Without implementation of the management activities, the San Bruno elfin butterfly likely will decline in status, and the callippe silverspot butterfly and the mission blue butterfly are highly likely to be extirpated in the foreseeable future from San Bruno Mountain. The existing HCP includes implementing several actions described in the recovery plan for the San Bruno elfin butterfly and mission blue butterfly (Service 1984) and the proposed Amendment does not change this.

The control of invasive plants and coastal scrub in grassland habitat will result in some areas becoming temporarily unvegetated, but the Habitat Manager will restore them with appropriate native plant species. Although some patches of habitat occupied by the listed species may become temporally isolated, these open areas are unlikely to prevent the dispersal and gene flow of the listed butterflies and the San Francisco garter snake. Movements and dispersal corridors between habitat patches is critical to their population dynamics. Movement between population centers maintains gene flow and reduces genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects.

The potential effects of the proposed management and monitoring of Conserved Habitat on the San Francisco lessingia include direct mortality from burning, mowing, and clearing, or being crushed by vehicles, project-related personnel, or associated equipment. Potential harmful or injurious effects include impairment of respiratory and photosynthesis processes due to smoke resulting from project activities. Alteration of microhabitats may include the destruction of cryptogamic crusts that help to exclude invasive non-native plants and improve water infiltration. Below ground effects include loss or degradation of soil structure, fertility, porosity, and water holding capacity. Below ground effects also include potential loss of seed banks which are vital to re-establishing broadly distributed populations.

Impacts on listed species from specific management actions are provided below:

*Hand Work, Mowing, and Mechanical Clearing:* Harm, harassment, injury, or mortality of the four listed butterfly species, San Francisco garter snake, and the San Francisco lessingia may result from crushing, capturing, poisoning, or otherwise damaging individuals that may be located within restoration and enhancement areas due to vegetation removal, use of herbicides, use of vehicles or motorized equipment that could crush individuals, crew movement, debris removal, and maintenance activities that may include vehicles, motorized equipment, and vegetation removal. Work activities may harass adult butterflies causing them to flee the area; this disturbance may increase the

potential for predation or their escaping to unsuitable habitat. Behavioral disturbance to the listed animals may result in an energetic expense that could reduce individual fitness.

The San Francisco garter snake could be crushed, entombed in its burrows, hit and injured or killed by vehicle strikes, harassed by noise and vibration, poisoned, burned, and experience a reduction in natural food sources as a result of the management activities. The garter snake may become trapped if plastic mono-filament netting is used for erosion control or other purposes where they would be subject to death by predation, starvation, injury, or desiccation.

*Herbicide Use:* While, incidental take of listed species resulting from pesticide use will not be covered under the section 10 (a)(1)(B) permit, the Service included a review of the potential cumulative effects of pesticides and herbicides on listed species if their use occurs within or in close proximity to occupied habitat. Herbicides pose a threat to listed butterflies if they kill the larvae host or adult nectar plants, or if the surfactant used in the herbicide has insecticidal effects.

*Livestock Grazing:* In moderation or at low levels, grazing will maintain habitat (e.g., Weiss 1999) for the four listed butterflies. Appropriately timed, low-intensity grazing will reduce the invasion of invasive plants. Such benefits must be weighed against the possible trampling of the early stages of the butterflies and their host and nectar plants. Historically grazing by Pleistocene herbivorous mammals and then domestic livestock occurred in areas inhabited by all four of these insects and likely helped maintain grassland habitat on the Mountain. Livestock grazing once occurred in some of the areas on the Mountain inhabited by the mission callippe silverspot butterflies but due to limitations in funding has not been recently implemented on a wide scale.

*Flaming, Prescribed Burning, and Pile Burning:* Historically, fire played a major role in maintaining California grasslands occupied by the callippe silverspot butterfly (Heady 1988) and mission blue butterfly. These two species have behavioral and biological adaptations to cope with fire, and their populations can be maintained in a landscape with cool burning fast moving grassland fires. However, if hot burning slow fires move through grasslands when eggs, larvae, or pupae are present, it likely kills them. If fire occurs during the summer flight period of the callippe silverspot butterfly or the spring flight period of the mission blue butterfly, we expect that most, if not all, adults present will avoid death by flying away from the fire. After the fire is out, adults return to the burned areas in search of host and nectar plants; this behavior was observed in the regal fritillary butterfly. Grassland fires in the San Francisco Bay area often leave patches of unburned habitat. The callippe silverspot and mission blue butterflies likely will use host and nectar plants in these unburned areas. The larval host and/or adult nectar plants could be eliminated by burning. Over the short term (3-5 years) host and nectar plants maybe reduced in burnt areas, but over the long term, a mosaic of fire in a large habitat area is likely beneficial if it retards coastal scrub invasion or otherwise promotes growth of the host plant and nectar plants.

Insects breathe via spiracles and inhalation of smoke particles could prevent their respiration and result in their asphyxiation. Deposits of high amounts of smoke particles

on the larval food plants can abrade leaves, and adversely affect photosynthesis (Thompson et al. 1984), which may lead to smaller and fewer food plants. Dust is expected to be reduced with implementation of dust abatement measures; however measures that include the wetting or dampening of exposed ground surfaces may also result in adverse effects to butterflies. Unseasonal moisture may trigger untimely germination of seeds when growing conditions are unfavorable. Seeds may potentially germinate followed by desiccation and the eventual death of seedlings, a process that has been used as an eradication method for the invasive yellow star thistle. Alteration of microhabitats may include the destruction of cryptogamic crusts that help to exclude invasive non-native plants and improve water infiltration. Below ground effects include loss or degradation of soil structure, fertility, porosity, and water holding capacity. These effects typically result from the soil compaction associated with the activities included as part of the HMP. Below ground effects also include potential loss of seed banks which are vital to re-establishing broadly distributed populations.

Since fire is an important component of natural ecosystems in California, the mechanical treatment and prescribed fire portions of the HMP will likely result in long-term beneficial effects to the San Francisco garter snake through the maintenance of habitat for this endangered species. However, in the short term, heat and smoke from the fires may kill or injure individuals. Individuals of the San Francisco garter snake may be adversely affected by increased levels of sedimentation into aquatic habitats caused by runoff from burned areas. If heavy sedimentation occurs in ponds or other water bodies where the Pacific treefrog prey, of the San Francisco garter snake breeds, it is possible that eggs and tadpoles will suffocate because of the silt, and reduce or eliminate the listed reptile at the site. Without adequate measures, heavy loss of sediments from the streambed may result in down-cutting of channels which could further degrade the stability of banks, and functions of the riparian ecosystem. Excess sedimentation or excess numbers of fire-associated personnel and their vehicles and equipment could damage or destroy the mammal burrows used by the aestivating or hibernating snakes. There is no scientific information on members of the genus *Thamnophis*' response to smoke exposure; however, gophers and California voles have higher metabolisms than snakes and easily persist through light fires in grasslands and removal of shrub canopy.

Voles and gopher burrow densities may increase significantly as a result of the mechanical treatment and prescribed fire portions of the proposed project. Gopher burrows vacated as a result of predation by raptors are typically occupied by voles. Voles and gopher burrows will create the sub-surface structure sufficient for San Francisco garter snake retreat and hibernation sites. Gopher burrows are a known escape refugia for San Francisco garter snakes and are often used as hibernacula. San Francisco garter snake populations are dependent on sufficient hibernacula, situated adjacent to foraging habitat, as such vegetation management actions are likely to increase suitable habitat for the garter snake on the Mountain.

*Replanting/Restoration:* An effect of the proposed project on the listed butterflies is the elimination of their habitat due to invasive vegetation invading areas where restoration has not been implemented or is inadequate. Soil disturbance, as associated with project

associated activities, facilitates the invasion of areas by non-native species. Increased human activity can introduce new species to an area. Although many of these plants do not survive or thrive in the areas to which they are introduced, some do. These plants could eventually displace or otherwise out-compete the plants which are depended upon by callippe silverspot and mission blue butterflies.

Habitat management activities that do not use locally collected native plant species could result in adverse effects to the four listed butterflies on San Bruno Mountain. Adult female butterflies that have been reared on different plant species may “imprint” on their chemical signature and not recognized other foodplants, and native, but non-local, foodplants may contain biochemical components that are poisonous to herbivorous insects. However, this effect is expected to be minimized because habitat restoration actions that include revegetation will utilize local seed sources.

While restoration biologists have had great success with increasing the abundance of host plants for the mission blue butterfly on the Mountain, no attempts were made to enhance populations of the callippe silverspot butterfly’s host plant (Johnny jump up) until 2001; this plant requires deep soils with established grass cover, making it more difficult to establish than the shallow soil-tolerant lupine species used by the mission blue butterfly (TRA 2002). After years of weed control, hydroseeding, and erosion control, some areas at the Northeast Ridge and Terrabay of the Mountain now support new populations of Johnny jump up (TRA 2002). PG&E has had promising, but limited success with their propagation. Most recently, TRA reported two successes in propagating Johnny jump up. In the first success, plants that had been produced in a nursery survived outplanting with only a one-year turnaround, which bodes well for growing plants to be used in restoration activities in a nursery. In the second success, a direct seeding trial on the Northeast Ridge suggests that seeds can germinate successfully in the field (Patrick Kobernus pers. comm.).

#### C. Bay checkerspot butterfly Critical Habitat

The proposed Amendment is not expected to appreciably diminish the value of the critical habitat for the Bay checkerspot butterfly or prevent the critical habitat from sustaining its role in the conservation and recovery of the species. Management activities that would result in temporary impacts within critical habitat will remove or control exotic plant species and are expected to enhance the primary constituent elements or will be of a relative small size and will be of an insignificant or discountable nature. Amending the HCP will allow for development in the Northeast Ridge, which is not located within critical habitat; the additional funding included in the Amendment will be provided for invasive plant control and management that likely will enhance the primary constituent elements not only within the critical habitat unit, but throughout the Mountain.

#### D. Cumulative Effects

Cumulative effects under the ESA include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in the biological opinion. Future Federal actions that are unrelated to the proposed Amendment are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

From 1995 to 2020, the human population is projected to increase by 18 percent for the San Francisco Bay hydrologic region (California Department of Water Resources 1998). According to the California Department of Forestry, from 2000 to 2020, the human population in the Bay Area region is expected to grow by 29 percent (5.3 million people to 6.8 million people), and by 60 percent from 2000 to 2040 (5.3 million people to 8.4 million people) (California Department of Finance 1998). San Bruno Mountain is a population site for hiking, picnicking, and other passive forms of recreation. Therefore, the number of human visitors will increase with concomitant adverse effects on the San Francisco garter snake and the four listed butterflies, including air pollution, trampling, release of exotic species, and poaching.

The continued spread and increasing density of exotic plant species and coastal scrub habitat will continue to degrade and eliminate habitat for the San Francisco garter snake, mission blue butterfly, San Bruno elfin butterfly, Bay checkerspot butterfly, and the callippe silverspot butterfly. The cumulative effects of these threats pose a significant impediment to the survival and recovery of these species unless the restoration, enhancement, and management of the Conserved Habitat on the Mountain are successful.

Drift from insecticide spraying for pest insects, such as exotic fruit flies from areas surrounding the Mountain could adversely impact the four listed butterflies on the Mountain. Control measures for the exotic light brown apple moth (*Epiphyas postvittana*) likely will include a multiphase approach using insecticides, insect growth regulators, spinosyns, and *Bacillus thuringiensis* var. *kurstaki*, a disease-causing bacterial strain specific to butterflies and moths (Lepidoptera) (Varela *et al.* 2008); the use of any of these agents in the vicinity of the Mountain could adversely affect the four listed butterflies.

Urban development results in increased numbers of pets. Both feral and domestic cats (*Felis catus*) and dogs (*Canis lupus familiaris*) prey on aquatic and riparian species including the San Francisco garter snake. People exploring creeks and wetlands on the Mountain may harass, collect, and kill this listed species.

Non-native species that prey upon, or compete with, listed species continue to be released in the San Francisco Bay Area, including the Mountain. Bullfrogs likely will be released in the future, and they likely will eat the San Francisco garter snake. Sowbugs and earwigs are predators on eggs, larvae, and pupae of butterflies (Edney *et al.* 1974; Langston and Powell 1975; Mattoni *et al.* 2003), likely including the four listed species on the Mountain.

The endangered San Francisco garter snake is a species that is highly valued in the international reptile trade (retired Special Agent K. McCloud pers. comm. to C.D. Nagano). Poaching from small or isolated populations of this listed species may result in their extirpation. The internet has become a popular venue for the international commercial trade in reptiles and amphibians. Poachers collecting non-listed reptiles, such as the western yellow bellied racers and western gopher snake, on the Mountain would likely collect any San Francisco garter snakes they encounter.

A threat to the mission blue butterfly, San Bruno elfin butterfly, Bay checkerspot butterfly, and callippe silverspot butterfly is the illegal collection for commercial and personal purposes. Adult specimens of these species are highly valued by private collectors, and an international market exists for illegally collected specimens of them, as well as other listed and rare butterflies (Ehrlich 1984; Collins and Morris 1985; U.S. Attorney's Office 1994; Williams 1996). Butterflies in small populations are vulnerable to harm from collection of adult butterflies (Gall 1984a, 1984b). A population may be reduced to below sustainable numbers (Allee effect) by removal of females, reducing the probability that new colonies will be founded. Collectors pose a threat because they may be unable to recognize when they are depleting butterfly colonies below the thresholds of survival or recovery (Collins and Morris 1985; Hayes 1981). A convicted collector had large numbers of callippe silverspot and mission blue butterflies in his collection (C.D. Nagano, pers. obs.; U.S. Attorney's Office 1994). This same poacher stated that collecting San Bruno elfin butterflies was easily accomplished on Radio Ridge on San Bruno Mountain because few people were in the area during the week, and individual adults can easily be collected when they are perching on the Pacific stonecrop that grow along the roadside cliff faces (C.D. Nagano, pers. obs.).

Based on the: (1) Final Rule listing the callippe silverspot butterfly as an endangered species published in the **Federal Register** on December 5, 1997; (2) *Application for an Amendment to the section 10(a)(1)(B) permit for San Bruno Mountain (PRT 2-9818)* dated February 5, 2008, from the City of Brisbane and associated material that was received by the Service on February 7, 2008; (3) *San Bruno Mountain Habitat Management Plan 2007* dated September 2007 prepared by the San Mateo County Parks Department; (4) *San Bruno Mountain Area Habitat Conservation Plan* (volumes 1 and 2) dated May 1982, prepared by the San Bruno Mountain Habitat Conservation Plan Steering Committee; (5) *Biological Study and Analysis of Conserved Habitat for Amendments to the Habitat Conservation Plan for San Bruno Mountain and Incidental Take Permit PRT 2-9818* dated October 2007 prepared for the County of San Mateo and City of Brisbane; (6) *Analysis of Butterfly Survey Data and Methodology from San Bruno Mountain Habitat Conservation Plan (1982-2000) 1. Status and Trends* dated 2004, prepared by Travis Longcore, Christine S. Lam, and John P. Wilson; (7) *San Bruno Mountain Habitat Conservation Plan Amendment Environmental Assessment* dated October 2007 prepared by Jones and Stokes; (8) electronic mail, telephone discussions, and meetings between the Service, City of Brisbane, Brookfield, Thomas Reid Associates, and others, between 1998 and 2009; and (9) other available information, the Service concluded in its Biological Opinion that the endangered callippe silverspot butterfly and threatened Bay checkerspot butterfly will be incidentally taken by the proposed project activities because they will have an adverse affect eggs, larvae, and adults of both species

within approximately 19.64 acres of grassland habitat on the Northeast Ridge. In addition, adverse affects to these two species will occur associated with management and monitoring of approximately 2,800 acres. Adverse affects to the endangered San Bruno elfin butterfly, endangered mission blue butterfly, and endangered San Francisco garter snake, will also occur; however, take associated with these species was already considered in previous biological opinions and take of these species is currently authorized under the existing ITP. Although take of plant species is not prohibited under the Act and therefore cannot be authorized under an incidental take permit, the San Francisco lessingia was included in the Service's biological opinion for the proposed Amendment to determine if the Amendment would jeopardize its continued existence and in recognition of the conservation benefits provided to the species under the HCP. There are no anticipated effects to any proposed, or candidate species or their habitats from this project and critical habitat for the threatened Bay checkerspot butterfly will not be adversely modified.

### **Findings for Permit Issuance Criteria**

#### **1. The taking will be incidental.**

The taking of Covered Species would result from, but would not be the purpose of, otherwise lawful activities conducted or carried out by the City or Plan Operator, and agents or third parties under the City's or Plan Operator's control. These activities are development activities on the Northeast Ridge and continued maintenance and monitoring activities associated with the HCP. All activities covered under the permit must be carried out in accordance with all appropriate local, State, and Federal laws.

#### **2. The Permittee will, to the maximum extent practicable, minimize and mitigate the impacts of taking listed species and other Covered Species.**

The Service has determined that impacts to the Covered Species likely to result from the issuance of the proposed Amended ITP will be minimized and mitigated to the maximum extent practicable by the measures described in the proposed Amendment to the existing HCP, and the existing IA. The proposed Amendment to the existing HCP would minimize and mitigate the impact of the proposed taking of the Covered Species through the implementation of the measures described below.

The disturbance of 19.64 acres of grassland habitat associated with development on the Northeast Ridge will be mitigated with: (1) the permanent conservation of an additional 8.97 acres dedicated as Conserved Habitat over the 1989 VTM; (2) establishment of a \$4,000,000 endowment; and (3) an increase in the annual dwelling charge for 88 dwellings from \$20 per unit (\$88.56 in 2007 dollars) to \$800 per unit (\$850 in 2007 dollars). As discussed above, the establishment of an endowment and subsequent increase of annual funding would allow an expansion of the existing vegetation management. Existing funding is sufficient only to conduct vegetation management in Priority 1 areas, while additional funding will allow the Plan Operator to conduct management in Priority 2 and 3 areas to help reclaim grasslands that have been lost to coastal scrub or invasive species. The proposed Amendment will result in incidental take

of all callippe silverspot butterflies in 19.64 acres of grassland habitat associated with development on the Northeast Ridge. However, overall the Amendment will contribute to the survival and recovery of the callippe silverspot butterfly, and other Covered Species because: (1) the revised operating plan for the Northeast Ridge will result in Conserved Habitat that is larger in size and higher in biological value than the habitat that will be lost as a result of the Amendment; (2) the revised operating plan has a reduced development footprint that avoids impacts to a hilltop area important to the callippe silverspot butterfly's mating success and reduces impacts to the larvae food plants of the mission blue and callippe silverspot butterflies; (3) reduces impacts to habitat by approximately 50%, including both temporary and permanently disturbed areas, compared to the 1989 VTM currently approved under the section 10(a)(1)(B) permit; (4) reduces habitat fragmentation by clustering development and elimination of the UII-NI development; and (5) the additional funding associated with the Amendment provides a significant increase in the funding available for the management of all Conserved Habitat. The Biological Opinion (Service 2009) concluded that without the supplemental funding and associated enhanced management actions the habitats utilized by the callippe silverspot butterfly and the other listed butterfly species will continue to decline to such a point that these species are highly likely to become extirpated from this site in the foreseeable future.

#### Avoidance and Minimization Measures

The City will continue to implement the avoidance and minimization measures of the existing HCP (EA Table 4-1). The following additional minimization measures will also be implemented to minimize the effects of the proposed Amendment on all Covered Species and habitats:

- a. Prior to conducting vegetation management work in a specified area, the Plan Operator will survey the target area for the presence of butterfly host plants, and crews conducting hand work, herbicide application, mowing, or mechanical clearing work under the Habitat Manager will be trained in the identification of butterfly host plants and will avoid them. Whenever crews are unfamiliar with the native plant species and the endangered species' host plants, all butterfly host plants in the area will be flagged and crews will be closely monitored during operations. All herbicides will be used in compliance with their labels. Herbicide drift will be minimized by applying the herbicide as close to the target area as possible. Grazing and burning will be limited to grasslands with a low density of butterfly host plants in order to avoid trampling, damage, or loss.
- b. The Plan Operator or authorized developer will conduct all tree removal and grading during the nonbreeding season for most special-status birds (generally September to February). If construction or vegetation management activities are scheduled to occur during the breeding season for special-status and non-special-status migratory birds and raptors (generally March to August), a qualified wildlife biologist will be retained to conduct focused nesting surveys in appropriate habitat prior to the start of construction or vegetation management. The nesting surveys will be conducted 15



days prior to initiation of construction or vegetation management activities that will occur in suitable habitat between March 1 and August 15. If no active nests are detected during these surveys, no additional mitigation is required. If surveys indicate that special-status bird nests are found in any areas that would be directly affected by construction or vegetation management activities, a no-disturbance buffer will be established around the site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged (usually late June to mid-July). The extent of these buffers will be determined by the biologist (coordinating with Service) and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, and ambient levels.

**3. The Permittee will ensure that adequate funding for the Habitat Conservation Plan and procedures to deal with unforeseen circumstances will be provided.**

The City will ensure funding for implementation of all take avoidance, minimization, and mitigation measures and changed circumstances as specified in the HCP, its subsequent amendments, and the proposed Amendment. Over the course of the HCP's history, annual spending has varied widely from year to year, with expenditures as low as \$60,000 to over \$200,000. The 2005 annual revenue for management of the HCP area is approximately \$140,000. The Draft San Bruno Mountain 5-Year Plan identifies the annual level of funding needed to implement a thorough management program at \$425,000 (\$415,000 for management plus \$10,000 annually for a contingency fund). This model, however, reflects the uppermost limit of a range of scenarios for enhanced management. The full range of financial scenarios for enhanced management ranges from approximately \$140,000 per year (for the existing "core program" aimed at controlling exotic species, plus controlled burning and grazing) to approximately \$383,000 per year (for comprehensive management of all Priority One areas) to a maximum of approximately \$415,000 per year (for comprehensive management of all Priority One areas plus extensive monitoring every year) (TRA Draft San Bruno Mountain HCP 5 Year Plan 2004).

Brookfield will provide \$4,000,000 in a non-wasting endowment in order to supplement the HCP's existing funding sources. The endowment is expected to generate approximately \$200,000 annually at a 5 percent rate of return. In addition, assessment on the 88 new homes (the 17 currently under construction and the 71 in the proposed Amendment) will generate an additional \$75,000 annually (TRA 2007a, p. 6-7). The combined revenue provided by the proposed Amendment is \$415,000 (\$140,000 existing revenue in addition to \$275,000).

Procedures for changed and unforeseen circumstances are stated in the HCP and IA under their respective sections for each. The Applicants would be responsible for the changed circumstances identified in the HCP. In the event that currently listed species – or any currently unlisted species which is listed in the future – which are not covered in the HCP is impacted by the proposed project, the Applicants would be responsible for consulting with the Service and taking appropriate action, as necessary, to comply with the ESA.

**4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.**

The ESA's legislative history establishes the intent of Congress that this issuance criterion be identical to a regulatory finding of "no jeopardy" under section 7(a)(2) (see 50 CFR 402.03). As a result, issuance of this section 10(a)(1)(B) permit was reviewed by the Service under section 7 of the ESA. In the biological opinion prepared for the proposed project, the Service concluded that issuance of an incidental take permit for the proposed Amendment is not likely to jeopardize the continued existence of the Covered Species or adversely modify critical habitat.

**5. Other measures, as required by the Service of the Applicants, have been met.**

The San Bruno Mountain Amended HCP and existing IA has incorporated all elements necessary for issuance of a section 10(a)(1)(B) permit and otherwise required by the Service.

**IV. SPECIES ASSURANCES – ANALYSIS AND RECOMMENDATIONS**

The City is not seeking assurances from the Service that no further mitigation will be required for these species in the event of unforeseen circumstances in the future.

Species are adequately covered if the HCP addresses the conservation of the species and its habitat and if all section 10 issuance criteria have been met. All section 10 issuance criteria have been met for the Covered Species as described under part III of these Findings.

The HCP adequately addresses conservation of the Covered Species and their habitat as described in Section III and in the Service's biological opinion (Service 2009), especially since without implementation of the management activities, as allowed by the increased funding, the San Bruno elfin butterfly likely will decline in status, and the callippe silverspot butterfly and the mission blue butterfly are highly likely to be extirpated in the foreseeable future from the Mountain.

**V. GENERAL CRITERIA AND DISQUALIFYING FACTORS – ANALYSIS AND FINDINGS**

The Service has no evidence that the permit application should be denied on the basis of criteria and conditions set forth in 50 CFR 13.21(b)-(c).

**VI. RECOMMENDATION ON ISSUANCE OF PERMIT**

Based on these findings with respect to the permit application, the San Bruno Mountain HCP, its subsequent amendments, the proposed Amendment, the Service's EA (JSA 2007) for this project, I recommend issuance of the amended section 10(a)(1)(B) ITP (#TE215574-5) to the City for incidental take of the Covered Species in accordance with San Bruno Mountain HCP, as Amended.

## **VII. FINDING OF NO SIGNIFICANT IMPACT – NEPA DECISION**

### **Alternatives Considered**

The Service considered a reasonable range of alternatives including the proposed action, issuance of an amended ITP based on the 1989 VTM, and a no action alternative. For a description of the alternatives please see Section I above.

### **Effects on the Human Environment**

The EA, incorporated by reference and attached, was prepared to disclose potential environmental impacts pursuant to NEPA. Only the EA and those documents made available during the public comment period were used in this FONSI. The EA supports the following findings:

#### Visual Resources

Because the majority of existing residential development has already been constructed in the vicinity of UII-NII, the resulting urbanization of undeveloped land and diminished views of open space in this portion of Brisbane would be minimal. The proposed changes would result in a total increase of 4.97 acres of permanently disturbed area at the UII-NII site compared to the 1989 VTM. However, overall development within the Northeast Ridge would be reduced by 8.93 acres over the 1989 VTM. The overall impact on scenic views would decrease as a result of the proposed changes. The 2007 VTM also includes smaller lots resulting in a more compact development, and the proposed housing would not project above the ridgeline. These changes reduce the visual impact to the viewshed to not significant.

Changes in views may occur from vegetation management activities. Removal of invasive species could potentially affect views by resulting in small clearings, patches of dying vegetation, or temporarily blackened areas on the Mountain. These impacts to visual resources from vegetation management activities would be temporary (not lasting more than one season), irregular (not occurring over the entire Mountain at the same time), and generally small in size and are therefore are not significant.

#### Climate/Regional Air Quality/Sensitive Receptors

The proposed 2007 VTM is consistent with growth anticipated under the City's 1994 General Plan and falls within the population projections prepared by the Association of Bay Area Governments (ABAG); therefore, the project would not conflict with implementation of an applicable air quality plan.

Because the Plan Operator would implement all relevant Bay Area Air Quality Management District's (BAAQMD) control measures identified in the 2000 Clean Air Plan, vegetation Management and Monitoring activities would be in compliance with local and regional plans. The mitigation measures identified in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Sensitive receptors to air pollutants typically include hospitals, nursing facilities, schools, and elderly care facilities. UII-NII would be located approximately 0.3 miles from a school. However, the proposed project will not expose any sensitive receptors to substantial pollutant concentrations because the 1982 EA/EIR mitigation measures will continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Smoke and particulates released from both planned and accidental fires have the potential to expose sensitive receptors adjacent to the Mountain. However, the Plan Operator will comply with BAAQMD regulations, including those that apply to open burning and addresses jurisdictional authority, timing of burns, and preparation of smoke management plans. Use of gas mowers, weed trimmers, chain saws, tractors, and other electric equipment for vegetation management may also result in minor emissions. However, implementation of the 1982 EA/EIR mitigation measures will continue to be implemented (Table 4-1). Therefore with mitigation, this impact is not significant.

#### Seismicity/Geologic Hazards/Soils

New structures developed on the project site will be designed and constructed in accordance with the California State Building Code (Title 24) and local building codes, to reduce potential seismic ground-shaking impacts. The mitigation measures identified in the 1982 and 1989 EA/EIR will continue to be implemented (Table 4-1). Therefore with mitigation, this impact is not significant.

ABAG liquefaction susceptibility maps indicate the project site has a very low susceptibility to liquefaction. Therefore, development would not likely result in ground failure hazards and management and monitoring activities would also not likely result in ground failure hazards.

The 2007 VTM would include debris catchment walls to mitigate potential landslide hazards. Any weak, potentially unstable colluvial materials encountered during project grading will be removed. Infrastructure Grading has stabilized steep slopes near Unit I. Local building codes and the mitigation measures identified in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Management and Monitoring activities could potentially initiate landsliding and debris flows through disturbance of topsoil during hand or mechanical clearing of brush invasions, grazing, prescribed or micro burns, and other techniques. The 1982 EA/EIR mitigation measures will continue to be implemented on the Mountain (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Site grading and geotechnical control may result in temporary soil erosion or topsoil loss. However, the proposed changes from the 1989 VTM would reduce the potential for soil erosion or topsoil loss as the total development area under the proposed project would decrease by approximately 8.93 acres. Additionally, the mitigation measures identified in the 1982 and 1989 EA/EIR would continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Management and Monitoring activities could potentially cause temporary soil erosion through disturbance of topsoil during vegetation management, such as hand or mechanical removal of brush invasions, prescribed or micro burns, grazing, and other techniques. However, these actions would be temporary (not lasting more than one season), irregular (not occurring over the entire Mountain at the same time), and generally small in size. The 1982 EA/EIR mitigation measures will continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Expansive soils, usually clay soils, that have the ability to change in volume when the water content of the soil changes, are not known at the project site. However, if expansive soils are found during preliminary grading activities the impact will be reduced through compliance with the California State Building Code (Title 24), and implementation of the mitigation measures outlined in the 1982 and 1989 EA/EIR (A Table 4-1). Therefore with mitigation, this impact is not significant.

Implementation of the proposed Alternative would not result in the loss of availability of known mineral resources of value to the region or State, because no mineral resources of value to the region or State are known to occur on the Mountain.

#### Hydrology/Flooding/Water quality

The 71 housing units constructed under the proposed 2007 VTM would obtain its water supply from SFPUC via the City of Brisbane. Although the 1989 Addendum states that the project may result in minor changes to the direction or rate of flow of groundwater in the development areas, studies conducted before the preparation of the 1989 Addendum did not identify any adverse hydrological consequences. The proposed project would not rely on groundwater and would therefore not deplete groundwater supplies. In addition, the mitigation measures identified in the 1982 and 1989 EA/EIR would continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Management and Monitoring activities on the Mountain would not affect groundwater supplies. This impact is not significant.

Surface runoff from the proposed Alternative would be less than that from 1989 VTM due to a reduced development footprint. The mitigation measures outlined in the 1982 and 1989 EA/EIR, which include sediment traps and catchment basins to collect sediment runoff, would continue to be implemented (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Management and Monitoring activities could potentially cause temporary soil erosion through disturbance of topsoil during vegetation management activities. Soil disturbance and subsequent erosion or siltation may occur following hand or mechanical clearing, prescribed or micro burns, and minor trampling from livestock grazing. However, changes are expected to be minor (small in size), temporary (not lasting more than one season), and irregular (occurring in patches). The existing mitigation measures shall continue to be implemented on the Mountain (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Water quality may be impacted during and after the development phase for the 2007 VTM. However, the proposed Amendment would disturb less area than was the 1989 VTM. The proposed changes would not increase the potential for violating any water quality standards or waste discharge requirements. Implementation of pesticide restrictions under the terms of the HCP and the existing mitigation measures (EA Table 4-1) will reduce the levels of sediment and/or pollutants entering surface water. Therefore with mitigation, this impact is not significant.

Management and Monitoring activities could potentially cause temporary soil erosion through disturbance of topsoil during vegetation management following hand work, prescribed or pile burning, grazing, and mechanical clearing. Additionally, there would be a risk of fuel and/or oil release during vegetation management using weed trimmers, chain saws, gas mowers, and/or heavy machinery. Ongoing management and monitoring activities also have the potential to release herbicides, pesticides, and fungicides into intermittent stream courses on the Mountain. However, the Plan Operator would take precautions to ensure that accidental release or spills do not occur, existing mitigation measures shall continue to be implemented on the Mountain (EA Table 4-1), and pesticide use in Conserved Habitat is prohibited under the HCP. Therefore with mitigation, this impact is not significant.

The only FEMA flood zone located within the HCP boundaries is located in the Crocker Industrial Park. During and after construction, project-related runoff into the Crocker Industrial Park would increase surface flows in the streets and may compound flooding conditions during 10-year storm events. The hydrological conditions at the site have not substantially changed since the 1982 and 1989 EA/EIR and the existing mitigation measures shall continue to be implemented on the Mountain (EA Table 4-1). Therefore with mitigation, this impact is not significant.

Management and Monitoring could temporarily increase the rate and/or amount of surface runoff if vegetation removal exposes topsoil and reduces infiltration rates. Soil disturbance and associated surface runoff may occur following hand or mechanical clearing, prescribed or micro burns, and minor trampling from livestock grazing. However, changes are expected to be minor (small in size), temporary (generally lasting no more than one season), and irregular (occurring in patches) and the existing mitigation measures shall continue to be implemented on the Mountain (EA Table 4-1). Therefore with mitigation, this impact is not significant.

#### Hazardous Materials

Hazardous materials, associated with business and industry, are not anticipated to be used during the operational period of the project since the proposed project includes residential housing. Grading and construction activities would involve the transport, use, and disposal of chemical agents, solvents, paints, and other hazardous materials that are commonly associated with construction activities. Discharge of household hazardous materials may also occur. The amount of these chemicals present during construction would be limited and would be in compliance with existing government regulations. Implementation of the proposed project is unlikely to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials because the amount of materials would be

small, their use would be temporary, and limited to the building site. This impact is not significant.

Management and Monitoring activities have the potential to transport and use hazardous materials on the Mountain. There would be a risk of fuel and/or oil release during vegetation management using weed trimmers, chain saws, gas mowers, and/or heavy machinery. There could also be potential release of herbicides, pesticides, and fungicides into intermittent stream courses on the Mountain. The use of pesticides and herbicides could impact listed species. However, the Plan Operator would take precautions to ensure that no accidental releases occur during implementation of management techniques, existing mitigation measures will shall continue to be implemented (EA Table 4-1), and pesticide use in Conserved Habitat is prohibited. Therefore with mitigation, this impact is not significant.

Occupation of the residential subdivision may also result in hazardous emissions or household hazardous waste. However, the project site is not located within 0.25 mile of an existing or proposed school and would therefore not expose sensitive receptors to hazardous emissions.

#### Biological Resources (vegetation, wildlife, species of concern)

Development of UII-NII would permanently disturb 16.67 acres of land for the construction of homes, roadways, infrastructure, and landscaped areas. An additional 2.97 acres would be disturbed temporarily for remedial grading but would be restored and dedicated as Conserved Habitat. Of the 16.67 acres of permanent disturbance, 12.01 acres are grassland habitat (10.94 acres disturbed for construction of UII-NII and 1.07 acres already disturbed for the Infrastructure Grading). This represents a total loss of 9.7% of grassland on the Northeast Ridge and less than 1% of grassland on the Mountain (EA Table 4-3). However, the 2007 VTM results in a increase of 17.30 acres of grassland over the 1989 VTM due to the dedication of Conserved Habitat in the entire UII-NI area and a net increase of 8.93 acres of Conserved Habitat. The 2007 VTM represents a decrease in the total area of development and an overall decrease in loss of grassland habitat. The 1982 EA/EIR mitigation measures (EA Table 4-2) will continue to be implemented. Therefore with mitigation, this impact is not significant.

Native grasslands would be enhanced within the Conserved Habitat, in accordance with the 2007 HMP to enhance cover of native forbs and perennial grasses. Annual grasslands are common on the Mountain, representing 90% of the land area but are dominated by non-native invasive species (primarily grasses). Although minor temporary disturbance may occur during implementation of the management techniques, the increased vegetation management made possible through the endowment fund from Brookfield would protect and enhance annual grasslands habitat over time. The 1982 EA/EIR mitigation measures (EA Table 4-1) will continue to be implemented. The proposed Amendment also establishes an endowment and supplemental funding for vegetation management actions. Therefore with mitigation this impact is not significant.

A major threat to the butterflies on the Mountain is the invasion of their annual grassland habitat non-native plant species and succession to coastal scrub. These species out-compete native host plants and thereby eliminate butterfly habitat. Soil disturbance, such as that associated with

development on the Northeast Ridge, may facilitate the invasion of areas by non-native species. Non-natives that are already present in the area may have a competitive advantage over native plants in dominating a temporarily disturbed area. In addition, increased human activity may introduce new non-native species to an area from foot traffic or domestic pets. Plants may also “escape” from residential areas. The 2007 VTM represents a decrease in the total area of development from the 1989 VTM, and associated potential spread of non-native species. Additionally, the supplementary funding provided by endowment would allow for enhanced vegetation management to combat the spread of invasive species on the Mountain. The establishment of the endowment fund reduces this impact to not significant.

Construction activities, including site grading and preparation, construction of geotechnical controls, and installation of public utilities, could potentially disturb a variety of special status plant species. Although no special status plant species (EA Table 3-2) have been documented within the development area of the Northeast Ridge, potentially undiscovered populations could be impacted. Potential disturbance of special status plants is reduced under the 2007 VTM, compared to the 1989 development authorizations. The EA concluded that continued implementation of the existing mitigation measures (EA Table 4-1) and new mitigation measures in the 2007 EA reduces this impact to not significant.

Native annual grasslands would be enhanced within the Conserved Habitat, in accordance with the 2007 HMP, by using hand work, herbicide application, livestock grazing, prescribed or micro burning, mowing, mechanical clearing, and/or restoration techniques to enhance cover of native forbs, perennial grasses, and special status plants. Although minor temporary disturbance to special status plants may occur during implementation of the management actions, the enhanced vegetation management made possible through the increased funding would protect and enhance annual grasslands habitat over time. Management efforts emphasize protection and expansion of special status species populations that service as host or nectar plants for the listed butterflies. The EA concluded that continued implementation of the existing mitigation measures (EA Table 4-1) and establishment of the endowment fund reduces this impact is not significant.

Compared to the 1989 VTM, the proposed reconfiguration represents a decrease in the total area of development and an overall decrease in loss of callippe silverspot and mission blue butterfly habitat, a decrease in the amount of fragmentation, and increases the preservation of high quality hilltopping habitat for both species. The 1989 VTM would result in impacts to 8.6 acres of high and low value callippe silverspot butterfly habitat, while the 2007 VTM would result in impacts to 3.1 acres of low value callippe silverspot butterfly habitat. Destruction of larval host plant would result in a decrease in the amount of habitat available for callippe silverspot reproduction. Individual callippe silverspot butterflies may also become disoriented as a result of the loss of their habitat and fail to find a mate and/or reproduce. However, impacts to the callippe silverspot under the proposed 2007 VTM have been mitigated to not significant through the preservation of high value hilltopping habitat on the two hills, dedication of an endowment, and increased funding for enhanced vegetation management of invasive plant species and enhancement of butterfly habitat (see discussion below). Enhanced vegetation management, along with implementation of exiting and new mitigation measures reduces this impact to not significant.



Potential take of the mission blue and San Bruno elfin butterflies and habitat disturbance would be similar to that described for the callippe silverspot since their host plants also require grassland habitat. Development under the 2007 VTM would result in the loss of 12.01 acres of the grassland habitat (including 1.07 acres that were disturbed by the Infrastructure Grading). Impacts on the listed butterflies may result from loss of habitat that supports the animals' host plants, placement of a movement barrier between colonies, habitat fragmentation, and introduction of non-native plants. Impacts would also occur through direct loss of individuals during construction activities or human activities once the development is occupied. However, no host plants for the San Bruno elfin are found within the Northeast Ridge development area and therefore take of San Bruno elfins is not likely to occur as a result of the 2007 VTM. Impacts to the mission blue butterfly are similar to those for callippe silverspot butterfly.

Butterfly habitat on the Mountain would benefit from the enhanced management work afforded by the Proposed Action. Native annual grasslands would be enhanced within the Conserved Habitat, in accordance with the 2007 HMP, to enhance cover of native forbs and perennial grasses. Because they are also located in grasslands, potential disturbance of mission blue and San Bruno elfin host plants are comparable to those impacts from vegetation management described above. The 2009 Biological Opinion concluded that implementation of the adopted HCP and the Proposed Action is not likely to jeopardize the continued existence of the mission blue butterfly and San Bruno elfin (Service 2009). Although minor temporary disturbances may occur during implementation of the management techniques, the increased vegetation management made possible through the increased funding and endowment would protect and enhance annual grasslands habitat over time. The 1982 EA/EIR mitigation measures will continue to be implemented (EA Table 4-1) and establishment of the endowment fund reduces this impact is not significant.

### Land Use

Implementation of the Proposed Action would not physically divide an established community. The proposed project itself is part of a planned larger residential development on the Northeast Ridge. Construction of UII-NII would contribute to the housing stock within the City. This impact is not significant.

Ongoing management and monitoring on the Mountain's protected lands would not physically divide a community. Therefore this impact is not significant.

The Northeast Ridge development was included in the 1982 HCP as a "Planned Parcel." Both the 1983 EIR and 1989 Addendum concluded that the project was in conformance with all applicable policies of the 1980 Brisbane General Plan (and the 1985 Housing Element, in the case of the 1989 Addendum). The proposed 2007 VTM is consistent with growth anticipated under the City's 1994 General Plan and falls within the population projections prepared by ABAG; therefore, the project would not conflict with any applicable land use plan, policy, or regulation. This impact is not significant.

Open space on the Mountain is managed for the benefit of covered butterfly species and their habitat. All Conserved Habitat is designated as open space on the City of Brisbane General Plan

and County of San Mateo General Plan. Vegetation management and monitoring activities under the 2007 HMP would not conflict with this open space designation, nor any local plans, policies, or regulations. This impact is not significant.

The Northeast Ridge development was included in the 1982 HCP as a “Planned Parcel.” Construction of the Northeast Ridge project was anticipated at that time and the impacts associated with its development were mitigated by provisions of the HCP and the 1982 EA/EIR. The Service also took into account potential impacts in its analysis for issuance of the original ITP. The proposed Amendment includes the final phase of development on the Northeast Ridge, under the 2007 VTM that minimizes potential impacts to listed butterflies. While development of UII-NI was included in the 1983 and 1989 VTMs, it is now proposed to remain as Conserved Habitat and managed under the HCP. The 2007 VTM results in more undisturbed open space and less permanently developed area. This reconfiguration is consistent with the HCP’s goal of the long-term survival of the Mountain’s listed species, as well as the HCP’s preservation strategy (as opposed to restoration) for butterfly habitat, therefore this impact is not significant.

Enhanced vegetation management made possible through the endowment fund and supplemental funding would continue to implement the existing HCP. All management and monitoring on the Mountain’s protected lands would be conducted in accordance with the existing HCP, and would facilitate protection and expansion of habitat for the Species of Concern, therefore implementation of the proposed Amendment will be beneficial.

Development under the 2007 VTM would result in fewer development impacts than Alternative 2. The construction activities might temporarily disrupt adjacent residences; however, once inhabited, the new residences would be compatible with the existing neighborhood. This impact is not significant.

Land uses adjacent to the Mountain include parks and open space, residential neighborhoods, commercial, and industrial developments. Hand work, mowing, and mechanical clearing – all activities that may employ gas- or electric-powered equipment – may result in minor noise and emissions. However, these impacts would be temporary and sporadic, and are considered less than significant. Additionally, prescribed, micro, and pile burning have the potential to accidentally ignite an urban-interface fire hazard. Because of the need to ensure adequate protection of species and habitat, vegetation management under the 2007 HMP includes a wide range of measures to eliminate or minimize incompatibility with surrounding uses. All burning on the Mountain would require assistance from California Department of Forestry and Fire Protection (CALFIRE) and/or the local fire departments, a permit from the BAAQMD, and a burn plan approved by CALFIRE. With implementation of these minimization measures, this impact is reduced to not significant.

### Cultural Resources

A records search with the Northwest Information Center of the California Historical Resources Information System (NWIC), Sonoma State University concluded that there were no historical resources recorded at the site (such as Indian Trust Assets). Thus, the Proposed Action would not result in any substantial adverse changes in historical resources. However, all mitigation

measures and requirements identified in the 1982 and 1989 EA/EIR (EA Table 4-1) will be implemented. Therefore with mitigation this impact is not significant.

Management and Monitoring would not disturb known historical resources, because none are known from the Mountain; however, activities could potentially impact unknown resources. Uprooting of woody vegetation during hand work and mechanical clearing could potentially uncover historical resources under the topsoil. Prescribed and pile burning could accidentally damage or destroy unknown resources. The 1982 EA/EIR mitigation measures will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

The proposed project would not disturb known archeological resources or result in any substantial adverse changes in the significance of archaeological resources. All mitigation measures and requirements identified in the 1983 EIR and 1989 Addendum for cultural resources would remain in effect for the proposed project (EA Table 4-1). Therefore with mitigation this impact is not significant.

Management and Monitoring would not disturb known archeological resources; however, such activities could potentially impact unknown resources. Uprooting of woody vegetation during hand work and mechanical clearing could potentially uncover historical resources under the topsoil. Additionally, prescribed and pile burning could accidentally damage or destroy unknown resources. However, as noted above, a records search concluded that there were no historical resources recorded at the site. The 1982 EA/EIR mitigation measures will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

Construction of 71 dwelling units under the proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature because none are known from the site. In addition, all mitigation measures and requirements identified in the 1982 and 1989 EA/EIR for cultural resources would continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

### Noise

Construction activities would temporarily increase noise levels in the Northeast Ridge during the construction period. Earth-moving activities could temporarily expose persons to increased noise levels of up to 90 dBA at the source. The City of Brisbane sets a maximum allowable noise level for construction equipment at 83 dBA at a distance of 25 feet from the source. Development under the 2007 VTM would result in fewer development impacts than Alternative 2, including a shorter construction period due to removal of UII-NI from development. Adherence to the City's Municipal Code 8.28.060, as well as the application of the mitigation measure outlined in the 1989 Addendum (EA Table 4-1), will reduce potential noise impacts to not significant.

Management and Monitoring activities may result in temporary, sporadic incidences of noise. Hand work, mowing, and mechanical clearing, all activities that may employ gas- or electric-powered equipment, may result in minor noise generation. However, because the Mountain is an

open space, most vegetation management practices would not be auditable from adjacent urban land uses. This impact is not significant.

The use of earth-moving and other construction equipment may result in temporary exposure to groundborne vibration or groundborne noise levels. This groundborne vibration and noise is not expected to be excessive and would be short-term in its duration. Development under the 2007 VTM would result in fewer development impacts than Alternative 2, including noise and vibration generation for a shorter construction period due to removal of UII-NI from development. The 1989 Addendum outlines a noise mitigation measure that will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

The project's residential and open space uses would not substantially increase ambient noise levels in the study area above existing levels. UII-NII would not generate enough traffic or other noise source to create a perceptible change in noise in the vicinity of the project site. No substantial long-term increase in ambient noise levels is expected to result. Although the project site is not located within an airport land use plan or within two miles of the San Francisco International Airport, the 1983 EIR stated that aircraft overflight may expose residents to a Community Noise Equivalent Level (CNEL) of 65 dBA. During the day, aircraft noise usually increases current noise levels anywhere from 5 to 15 dBA; this increase is somewhat higher at night when ambient noise levels are lower. Mitigation measures in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

Management and Monitoring activities may result in temporary, sporadic incidences of noise. Hand work, mowing, and mechanical clearing, all activities that may employ gas- or electric-powered equipment, may result in minor noise generation. However, because the Mountain is an open space, most vegetation management practices would not be auditable from adjacent urban land uses. No substantial long-term increase in ambient noise levels is expected to result with implementation of the project. This impact is not significant.

#### Public Health Hazards

The Northeast Ridge is not located within an airport land use plan nor is it within two miles of an airport. The project would not result in an airport-related safety hazard for people residing or working in the project area. Therefore this impact is not significant.

Prescribed, micro, or pile burns conducted on the Mountain have the potential for smoke interference with aircraft landing or departing from the San Francisco International Airport, located approximately 4.5 miles southwest of the Mountain. Other management and monitoring would not impair flight patterns or create safety hazards related to the airport. This impact is not significant.

The proposed 2007 VTM includes the removal of an approved road connection (previously referred to as Carter Street) from Silverspot Drive to Guadalupe Canyon Parkway at the northwestern corner of UII-NII. However, a paved emergency vehicle access (EVA) road for the UII-NII site would be retained at that location. The paved EVA at the former UII-NI site also

would remain, even though this neighborhood would not be further developed. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact is not significant.

Hand work conducted by the Habitat Manager has the potential for flaming hazards. Prescribed, micro, and pile burning have the potential to accidentally ignite an urban-interface fire hazard. Ignition of a wildfire could impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Mitigation measures in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

The project site is adjacent to existing and proposed Conserved Habitat. Construction of 71 new dwelling units adjacent to this open space would expose new residents to wild land fire hazard. However, the proposed changes to the project do not result in an increase of exposure or risk of wild land fires over those evaluated in the 1982 and 1989 EA/EIR, which concluded these impacts were not significant. Additionally, buildings will incorporate safety features, such as sprinklers. Mitigation measures in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

#### Public Services/Utilities

Since the 1989 Addendum, the Fire Department has relocated to 3445 Bay shore Boulevard at Valley Drive. The 1989 Addendum concluded that the Fire Department's response times are well within the County standard of 6 minutes 59 seconds for emergencies involving Advanced Life Support equipment. Fire protection and emergency response services would be provided to UII-NII from this relocated station. The Northeast Ridge would result in increased demand for emergency services, as well as the short-term impact of an increase in plan checking and inspection workload. However, this potential increase would be reduced from the 1989 VTM due to the removal of UII-NI from development. As such, the Fire Department would need fewer staff to serve the number of Brisbane residents associated with the project. Both the 1982 1989 EA/EIR Addendum provided mitigation measures that will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

Escaped wildfires would increase demand for fire protection services and withdraw local fire department resources away from urban responses. However, as stated above, EVA roads are part of the project design and Fire Department response times are well within the County's standard. Both the 1982 1989 EA/EIR Addendum provided mitigation measures that will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

Since the 1989 Addendum, the Police Department has relocated to 50 Park Lane. Police protection services would be provided to UII-NII from this relocated station. Increased demand for police protection would be reduced from the 1989 VTM due to the removal of UII-NI from development. As such, the Police Department would need to hire fewer staff to serve the number of Brisbane residents associated with the project. This impact is not significant.

Management and Monitoring activities would have a negligible impact on police protection activities within the study area. Law enforcement personnel may be called out to the Mountain if vandals were to steal or destroy management and monitoring tools, equipment, or supplies; however this is expected to be a rare event. This impact is not significant.

New elementary and intermediate school students generated at build out would not likely exceed optimum or maximum capacities, because as a condition of approval for the 1989 VTM, the applicant donated a 1.7-acre site to Brisbane Elementary School District (BESD) for a future elementary school. Construction of the future elementary school would reduce potential impacts to school services. The reduced development proposed under the 2007 VTM would further reduce impacts on local school capacity. Based on California legislative changes in 1998, the applicant would pay an impact fee of \$2.14 per square foot of residential development. Assuming that each house developed in UII-NII has an average footprint of 2,957 square feet, this would result in the impact fee payment of approximately \$449,286.00. Due to the reduction in housing units in the 2007 VTM, however, BESD would receive a lower school impact fee payment than under the 1989 VTM. Therefore with mitigation this impact is not significant.

Management and Monitoring activities would not generate additional demand for school facilities. Therefore there would be no impact.

Residential Construction would increase demand for parks and recreation. The applicant paid an in-lieu park fee for construction of a school/park/recreation center site. Under the 2007 VTM, the applicant would dedicate 144.66 acres of Conserved Habitat to San Mateo County as Plan Operator of the HCP. Brookfield also constructed a neighborhood park and several community buildings that will serve the residents of the Northeast Ridge. A swimming pool, shower area, and offices was constructed at a school district site adjacent to the Brisbane Elementary School, and a 1.2-acre parcel on the northeast corner of Old Bay shore and Old County Road was landscaped and improved for usable open space. In addition to these design features and community improvements associated with the overall development, the proposed 2007 VTM includes 8.93 more acres of Conserved Habitat than proposed in the 1989 VTM. Therefore these measures reduce this impact to not significant.

Vegetation management would improve habitat conditions on the Mountain for the covered butterfly species. Continued protection of the endangered butterflies may support visitation to the County and State Parks land. However, Management and Monitoring activities would not increase demand for parks and recreation. Therefore there would be no impact.

The 2007 VTM would not result in construction of new wastewater treatment facilities or accidents of wastewater treatment standards of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). The proposed modifications include changes to the parcel lot configuration and grading plans, and a reduction in the total number of residences. Adequate capacity exists within the City of Brisbane's contract with SFPUC to provide wastewater collection and treatment services to the proposed project. The 1989 Addendum included mitigation measures that would provide for additional facilities to meet the demands of the new population (EA Table 4-1). Therefore with mitigation this impact is not significant.

Management and Monitoring activities would not result in the need for additional wastewater treatment capacity or accidents of wastewater standards. Therefore there would be no impact.

Conversion of undeveloped land for construction could result in increased surface runoff and associated flooding. However, the 2007 VTM would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Surface runoff from 71 dwelling units would be accommodated by existing and planned facilities. The amount of impervious surface area in the new parcel lot configuration is less than that in the 1989 VTM, resulting in a reduction in overall and peak runoff volumes. The City's downstream storm water drainage infrastructure was designed to accommodate drainage impacts from the 1989 VTM, but would be receiving less surface runoff under the reconfigured plan. The mitigation measures in the 1982 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with the reduction in overall development footprint and mitigation this impact is not significant.

Management and Monitoring could temporarily increase the rate and/or amount of surface runoff if vegetation removal exposes topsoil and alters infiltration rates. Soil disturbance and associated surface runoff may occur following hand or mechanical clearing, prescribed or micro burns, and minor trampling from livestock grazing. Although increased surface runoff may discharge into nearby storm water drainage facilities, the increase is minor and will be temporary. The mitigation measures in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore with the reduction in overall development footprint and mitigation this impact is not significant.

The 2007 VTM includes modifications to the circulation layout, parcel lot configuration, and grading plan for the UII-NII neighborhood, and foregoes construction of additional homes at UII-NI. Although this development would generate new demand for water supplies, it would not require construction of new water treatment facilities. Based on the implementation of the mitigation measures outlined in the 1982 and 1989 EA/EIR (EA Table 4-1), no new or expanded entitlements would be required and there would be sufficient water supplies available to serve the project from existing entitlements and resources. Therefore with the reduction in overall development footprint and mitigation this impact is not significant.

Management and Monitoring activities, primarily replanting and restoration, may result in short-term demand for water supplies as some newly planted species may be irrigated. Irrigation is generally conducted for only the first few seasons, in order to establish the plant's root bed. As such, water demand for restoration activities would be temporary and periodic. Therefore this impact is not significant.

Construction of 71 dwelling units would generate demand for garbage and recycling services. However, no significant impact related to landfill capacity limitation is anticipated since the proposed project is a reduction from impacts over the 1989 VTM. Therefore this impact is not significant.

Management and Monitoring activities would not result in the need for additional landfill capacity, because these activities would not generate landfill waste. Therefore there would be no impact.

### Transportation (level of service standard)

The 2003 Traffic and Circulation Technical Analysis was conducted to determine circulation system performance with the addition of traffic from the 2007 VTM to existing traffic volumes. All study area intersections are projected to operate at satisfactory levels of service under the Existing plus Project conditions; therefore this impact is not significant.

Management and Monitoring activities are not anticipated to have a substantial effect on area traffic volumes because trip generation for maintenance activities would be minimal. Therefore this impact is not significant.

The 2003 Traffic and Circulation Technical Analysis was conducted to determine circulation system performance with the addition of traffic from the 2007 VTM to existing traffic volumes. Bayshore Boulevard is a designated Congestion Management Program (CMP) facility on the C/CAG network. Under both the Existing plus Project and Cumulative conditions, the Bayshore Boulevard/Guadalupe Canyon Parkway intersection and the Bayshore Boulevard/Valley Drive intersection would operate at acceptable levels of service (at or above level of service (LOS) C). Therefore this impact is not significant.

As stated above, Management and Monitoring activities are not anticipated to have a substantial effect on area traffic volumes and trip generation for maintenance activities would not impact LOS. Therefore this impact is not significant.

The 2003 Traffic and Circulation Technical Analysis identified intersection deficiencies for the northbound left turn lanes and queue lengths for the Bayshore Boulevard/Guadalupe Canyon Parkway and Bayshore Boulevard/Valley Drive intersections. Recommended improvements to correct these deficiencies, including the addition of a second northbound left turn pocket at the Bayshore Boulevard/Valley Drive intersection and lengthening the left turn pocket to provide at least 300 feet of queuing space, have been implemented and were included in the existing conditions for this traffic study. No new impacts were identified for traffic and circulation issues associated with the proposed 2007 VTM. Therefore this impact is not significant.

Management and Monitoring activities would not result in traffic hazards or construction of new design features. Therefore there would be no impact.

The 1989 Addendum concluded that the Northeast Ridge would provide 5.4 parking spaces per unit or 5.7 parking spaces per unit, based on the doubleloaded street option or the single-loaded street option, respectively. The City of Brisbane required a parking standard of 2.5 spaces per unit in each neighborhood as a condition of the Planned Development Permit. Construction of the 71 housing units in the 2007 VTM will conform to these standards, including construction of two-car garages for each unit. Additionally, mitigation measures outlined in the 1989 Addendum required the development of a parking management program and the prohibition of parking of recreational vehicles, boats, trailers, etc. in the project. Implementation of the 1989 mitigation measures will continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.



Management and Monitoring activities are not anticipated to have an effect on parking capacity on the Mountain. Parking needs for maintenance activities will be accommodated by existing facilities. Therefore this impact is not significant.

Implementation of the 2007 VTM would not conflict with adopted policies, plans, or programs supporting alternative transportation. New residences occupying UII-NII would have access to the Mountain's extensive trail system. Additionally, mitigation measures outlined in the 1982 and 1989 EA/EIR will continue to be implemented (EA Table 4-1). Therefore, with mitigation, this impact is not significant.

Management and Monitoring activities would not conflict with adopted policies, plans, or programs supporting alternative transportation. Prescribed or micro burning may temporarily preclude use of portions of the Mountain's trail system for alternative transportation. However, the use of prescribed fire would be short term, confined to a specific time of year, and not expected to occur frequently. Therefore this impact was not significant.

#### Population/Socioeconomic (disadvantaged communities)

The 2007 VTM was anticipated in planning projections for the City of Brisbane, included in the 1982 HCP as a "Planned parcel", and accounted for in the ABAG's regional growth projections. Population growth was previously addressed in the 1983 EIR and 1989 Addendum; implementation of the proposed 2007 VTM would reduce potential direct and indirect impacts resulting from the increased population. This project would not result in substantial population growth. Therefore this impact is not significant.

Management and Monitoring would not induce population growth on the Mountain because it would not increase the number of people living in the area. Therefore there would be no impact.

The proposed Northeast Ridge development would not permanently change the conditions that affect individual businesses or the local economic climate (land use, transportation systems, customer base, etc.). Demand for construction employment would increase during grading, site preparation, infrastructure installation, slope stabilization, and housing construction phases. However, this demand would be temporary and limited to the periods during active construction. Therefore this impact is not significant.

Management and Monitoring would have few potential effects on economic conditions within the study area. Establishment of the endowment, however, would allow more funding to be available annually for implementation of vegetation management and monitoring activities. The Habitat Manager may hire additional field and/or biological staff to implement the enhanced management program. The 1982 EA/EIR mitigation measures shall continue to be implemented (EA Table 4-1). Therefore with mitigation this impact is not significant.

The 2007 VTM would contribute to meeting the City of Brisbane's residential development needs. Although it would not likely provide housing affordable to disadvantaged communities, it is not expected to be an impediment to meeting regional housing needs. There would be no adverse impacts to disadvantaged populations. Therefore this impact is not significant.

Management and Monitoring activities associated with the proposed Amendment would not result in disproportionately high or significant effects on minority and low-income populations. Therefore this impact is not significant.

#### NEPA Cumulative Impacts

NEPA defines cumulative effects as those resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Foreseeable actions that could result in cumulative impacts were analyzed in the EA and determined that with mitigation the Amendment would not significantly contribute to cumulative impacts.

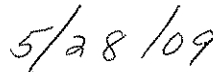
#### **NEPA Decision**

In accordance with the National environmental Policy Act of 1969 (NEPA), as amended, and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), the Service's Pacific Southwest Region has found that based on the EA and documents that were made available to the public during the public comment period, the proposed Amendment will not result in significant impacts to the physical and biological resources in the San Bruno Mountain HCP area or in the surrounding area and that the City of Brisbane's proposed project will not significantly affect the quality of the human environment (40 C.F.R. 1501.4 (e), 1508.13). Therefore, an Environmental Impact Statement is not required.

It is my determination that the proposal does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of section 102(2)(c) of the NEPA. Accordingly, an Environmental Impact Statement on the proposed action is not required. An Environmental Assessment has been prepared in support of this finding and is incorporated by reference and attached. The EA is also available from the Service's Sacramento Fish and Wildlife Office.



Deputy Regional Director  
Pacific Southwest Region  
Fish and Wildlife Service



Date